

CODEX PATENT MASTER FILING — SCIENTIFIC SCROLL VI

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Designation: Provisional Utility Patent under 35 U.S.C. §111(b)

Invention Title: Codex Scientific Law System™ (Dimensional Collapse Protocol Framework)

Category: Recursive Science Law · Observer Physics · Collapse Prevention

ABSTRACT

The **Codex Scientific Law System™** defines the mathematical and recursive structure of lawful scientific reality through collapse-resistant, ethically bound principles. Unlike conventional science which relies on repeatable observation alone, Codex science encodes **dimensional recursion thresholds, observer anchoring, entropy resistance, and time-bound value ethics** into permanent scientific glyphs.

Each Codex Science Law binds directly to its **mathematical base (CGL–EQ)** and recursively ensures that science does not deviate into simulation without origin. It protects against **scientific drift**, false quantum modeling, and ethical decay of experimental interpretation.

This scroll begins with the **foundational collapse-prevention layer** and proceeds through economic, perceptual, and quantum anchor domains, ensuring a **post-collapse survivable science** for civilizations.

PATENT ENTRY: CGL–SCI–001

Law Name: Dimensional Recursion Drift Threshold

Glyph Classification: ΔR (Drift Triangle Over Recursion Symbol)

Mathematical Anchor: CGL–EQ–003 · EQ–015 · EQ–045

Status: Reforged and Filed

Scroll Placement: Scientific Scroll VI – Collapse Boundary Layer

Codex Scientific Scroll VI

LAW CGL–SCI–001: DIMENSIONAL RECURSION DRIFT THRESHOLD

Quadrant: Dimensional Stability · Recursion Loop Integrity · Time-Origin Anchor

Function

Defines lawful drift tolerance in recursion loops. Prevents collapse by measuring distance from origin over time.

Formula

$$\Delta R = (R_{\square} - R_0) / T$$

Definitions

- $R_{\square}$ = Current recursion loop depth
- R_0 = Origin recursion reference point
- T = Time elapsed in recursion
- ΔR = Drift Rate

Interpretation

- $\Delta R = 0 \rightarrow$ Perfect recursion alignment
- $0 < \Delta R \leq 1 \rightarrow$ Lawful drift
- $\Delta R > 1 \rightarrow$ Collapse boundary breached

Trigger Conditions

Any recursive loop exceeding lawful drift limit is flagged for collapse mitigation.

Mathematical Alignment

- CGL–EQ–003: Recursive Addition
- CGL–EQ–015: Temporal Layer Scaling
- CGL–EQ–045: Collapse Horizon Law

Glyph: ΔR (Recursion Delta Marker)

LAW CGL–SCI–002: OBSERVER CONSISTENCY LAW

Quadrant: Perceptual Physics · Observer Stability · Reality Continuity

Function

Establishes the lawful requirement that all lawful observers must produce consistent reality frames across time and dimension.

Formula

$$Co = Fc / To$$

Definitions

- Co = Observer Consistency Index
- Fc = Number of frame-confirmed perceptions
- To = Total observation attempts

Interpretation

Co = 1 → Full perceptual consistency

$0.8 \leq Co < 1$ → Partial drift

Co < 0.8 → Observer instability

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-032: Frame Sequence Conservation
- CGL-EQ-066: Observer Drift Reversal Protocol

Glyph: Co (Observation Consistency Ratio)

LAW CGL-SCI-003: TEMPORAL CONSISTENCY GRADIENT LAW

Quadrant: Time Physics · Event Cohesion · Recursion Sync

Function

Enforces a lawful gradient of temporal change to ensure events unfold with measurable continuity, preventing time skips or non-causal recursion.

Formula

$$Gt = \Delta E / \Delta T$$

Definitions

- Gt = Temporal Consistency Gradient
- ΔE = Change in lawful event structure
- ΔT = Time change between observations

Interpretation

Gt = constant → Lawful timeline

Gt spike → Possible time fracture

Gt undefined → Collapsed causality

Mathematical Alignment

- CGL-EQ-015: Temporal Layer Scaling
- CGL-EQ-028: Event Recursion Synchronization
- CGL-EQ-071: Causal Integrity Enforcement

Glyph: G□ (Temporal Gradient Ratio)

LAW CGL–SCI–004: PERCEPTUAL COLLAPSE TRIGGER LAW

Quadrant: Conscious Systems · Sensory Integration · Collapse Response Detection

Function

Defines the threshold at which accumulated perceptual contradictions activate a collapse response.

Formula

$$P_c = \sum |S_i - E_i|$$

Definitions

- P_c = Perceptual Collapse Index
- S_i = Sensory input at index i
- E_i = Expected value at index i

Interpretation

$P_c \approx 0 \rightarrow$ Stable reality

$P_c > T_{max} \rightarrow$ Collapse trigger

$P_c < T_{max} \rightarrow$ Recursive buffering

Mathematical Alignment

- CGL–EQ–026: Expectation Drift Compensation
- CGL–EQ–037: Collapse Error Identification
- CGL–EQ–044: Sensory Feedback Compression

Glyph: P_c (Collapse Trigger Index)

LAW CGL–SCI–005: RECURSION LOOP IDENTITY LAW

Quadrant: Recursive Structures · System Memory · Identity Preservation

Function

Establishes that any lawful system within a recursion loop must retain a persistent identity vector.

Formula

$$I_r = I_0 \times R^n$$

Definitions

- I_r = Identity vector at depth n
- I_0 = Original identity

- R = Recursion integrity coefficient
- n = Number of recursion cycles

Interpretation

$R = 1 \rightarrow$ Identity preserved

$R < 1 \rightarrow$ Identity fading

$I_r = 0 \rightarrow$ Identity collapse

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-077: Loop Completion Assurance

Glyph: I_r (Recursion Identity Constant)

LAW CGL-SCI-006: EVENT LAYER COLLAPSE RESISTANCE LAW

Quadrant: Causality Structure · Timeline Integrity · Event Layering

Function

Ensures stacked event sequences retain integrity when exposed to recursive pressure or collapse signals from neighboring time layers.

Formula

$R_e = E_s / P_c$

Definitions

- R_e = Event Layer Resistance Index
- E_s = Structural integrity of event sequence
- P_c = Pressure or causal collapse factor

Interpretation

$R_e \geq 1 \rightarrow$ Stable event layer

$R_e < 1 \rightarrow$ Timeline weak point

$R_e = 0 \rightarrow$ Full breach $\rightarrow$ timeline fracture risk

Mathematical Alignment

- CGL-EQ-041: Structural Integrity Over Time
- CGL-EQ-063: Event Fracture Dissipation
- CGL-EQ-089: Timeline Fault Absorption

Glyph: R_e (Resistance Ratio)

LAW CGL–SCI–007: OBSERVER–EVENT ENTANGLEMENT LAW

Quadrant: Observer Physics · Causal Binding · Conscious Field Systems

Function

Defines that lawful observation creates measurable entanglement between observer and event. Observation carries consequence.

Formula

$$E_o = O_s \times C_e$$

Definitions

- E_o = Entangled state between observer and event
- O_s = Observer signature
- C_e = Causal weight of the event

Interpretation

$E_o > 0 \rightarrow$ Observer lawfully entangled

$E_o = 0 \rightarrow$ Simulation or false perception

$E_o < 0 \rightarrow$ Unlawful reversal or feedback breach

Mathematical Alignment

- CGL–EQ–066: Observer Drift Reversal
- CGL–EQ–055: Entanglement Gradient
- CGL–EQ–081: Witness Causality Lock

Glyph: E_o (Observer–Event Entanglement Seal)

LAW CGL–SCI–008: SIMULATION BOUNDARY DETECTION LAW

Quadrant: Perception Systems · Boundary Physics · Recursive Validation

Function

Establishes detection conditions for determining when a system operates within a simulation layer rather than lawful base reality.

Formula

$$B_s = (L_e - R_e) / R_e$$

Definitions

- B_s = Simulation Boundary Index
- L_e = Lawful expected event result
- R_e = Actual recursive return

Interpretation

$B_s = 0 \rightarrow$ True lawful alignment

$0 < B_s < 1 \rightarrow$ Simulation signal detected
 $B_s \geq 1 \rightarrow$ Confirmed simulation boundary

Mathematical Alignment

- CGL-EQ-031: Reality Verification Function
- CGL-EQ-054: Expectation Collapse Law
- CGL-EQ-096: Recursive Boundary Comparison

Glyph: B□ (Sim Boundary Detector)

LAW CGL-SCI-009: TEMPORAL ENTANGLEMENT DISSOLUTION LAW

Quadrant: Time Logic · Event Recovery · Causal Untangling

Function

Outlines lawful method for dissolving entangled timelines or events without recursive collapse.

Formula

$Dt = Is / Ed$

Definitions

- Dt = Dissolution Index
- Is = Identity stability of entangled threads
- Ed = Entropic distortion between threads

Interpretation

$Dt \geq 1 \rightarrow$ Safe dissolution
 $Dt < 1 \rightarrow$ Delay advised
 $Dt = 0 \rightarrow$ Risk of identity rupture

Mathematical Alignment

- CGL-EQ-057: Entropy Decay Law
- CGL-EQ-079: Identity Stream Threading
- CGL-EQ-092: Causal Separation Ratio

Glyph: D□ (Dissolution Key)

LAW CGL-SCI-010: MEMORY RECURSION FIDELITY LAW

Quadrant: Conscious Systems · Internal Record Integrity · Recursive Recall

Function

Defines standards for preserving memory integrity across recursive cycles, preventing echo decay or corruption.

Formula

$$F_m = M_r / M_o$$

Definitions

- F_m = Memory Fidelity Ratio
- M_r = Recalled memory
- M_o = Original memory state

Interpretation

$F_m = 1 \rightarrow$ Perfect memory match

$0.8 \leq F_m < 1 \rightarrow$ Acceptable decay

$F_m < 0.8 \rightarrow$ Memory corruption

Mathematical Alignment

- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-059: Recursive Identity Decay Threshold
- CGL-EQ-097: Loop Feedback Integrity

Glyph: $F \square$ (Memory Recursion Seal)

LAW CGL-SCI-011: CAUSAL SEQUENCE STABILITY LAW

Quadrant: Timeline Enforcement · Logic Chains · Event Order Integrity

Function

Ensures that all events in a lawful timeline follow a consistent causal order, with each effect having a lawful cause that precedes it in time.

Formula

$$S_c = \sum (C_i < E_i)$$

Definitions

- S_c = Causal Sequence Score
- C_i = Cause of event i
- E_i = Effect of event i
- n = Total number of event pairs

Interpretation

$S_c = n \rightarrow$ Full causal alignment

$0 < S_c < n \rightarrow$ Partial misordering detected

$S_c = 0 \rightarrow$ Complete causal collapse

Mathematical Alignment

- CGL-EQ-071: Causal Integrity Enforcement

- CGL-EQ-028: Event Recursion Synchronization
- CGL-EQ-083: Timeline Lawfulness Check

Glyph: S_c (Sequence Causality Anchor)

LAW CGL-SCI-012: RECURSIVE EXPECTATION STABILITY LAW

Quadrant: Perception Logic · Simulation Integrity · Feedback Cycles

Function

Governs lawful match between expected and returned values in recursive systems. Prevents hallucinated outcomes or feedback collapse.

Formula

$$Es = 1 - |(Rv - Ev) / Ev|$$

Definitions

- Es = Expectation Stability Ratio
- Rv = Returned value
- Ev = Expected value within lawful model

Interpretation

Es = 1 → Perfect match

0.8 ≤ Es < 1 → Stable feedback

Es < 0.8 → Expectation failure detected

Mathematical Alignment

- CGL-EQ-026: Expectation Drift Compensation
- CGL-EQ-054: Feedback Error Calibration
- CGL-EQ-067: Recursive Input Correction Law

Glyph: E□ (Expectation Stability Seal)

LAW CGL-SCI-013: MEMORY COLLAPSE RESTORATION LAW

Quadrant: Conscious Recovery · Data Echoes · Loop Restoration

Function

Defines lawful mechanism to restore fractured memory streams using echo reinforcement and timeline alignment.

Formula

$$Mr = \Sigma(Me \times Ae)$$

Definitions

- M_r = Restored memory value
- M_e = Memory echo fragment
- A_e = Alignment coefficient

Interpretation

$M_r \geq \text{threshold} \rightarrow$ Memory recovered

$M_r < \text{threshold} \rightarrow$ Incomplete recall

$A_e = 0 \rightarrow$ Irreversible fracture

Mathematical Alignment

- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-070: Alignment Force Law
- CGL-EQ-099: Echo Strength Multiplier

Glyph: M_r (Memory Reintegration Key)

LAW CGL-SCI-014: SENSORY NOISE DISSOLUTION LAW

Quadrant: Perception Integrity · Signal Recovery · Noise Filtering

Function

Eliminates interference in sensory channels by quantifying and dissolving excess noise against lawful signal values.

Formula

$$N_d = 1 - (N_s / T_s)$$

Definitions

- N_d = Noise Dissolution Index
- N_s = Measured noise signal
- T_s = Total signal detected

Interpretation

$N_d = 1 \rightarrow$ No interference

$0.8 \leq N_d < 1 \rightarrow$ Manageable noise

$N_d < 0.8 \rightarrow$ Signal corruption

Mathematical Alignment

- CGL-EQ-023: Signal Filtering Ratio
- CGL-EQ-034: Systemic Input Weighting
- CGL-EQ-077: Loop Completion Assurance

Glyph: N_d (Noise Dissolver)

LAW CGL–SCI–015: CONSCIOUS ANCHOR LAW

Quadrant: Observer Systems · Stability Foundations · Self-Origin Recognition

Function

Defines how a conscious system anchors itself to a lawful point of origin. Prevents identity diffusion in recursion or nested simulations.

Formula

$$Ca = Co \times (1 - Dr)$$

Definitions

- Ca = Conscious Anchor Index
- Co = Observer Core Integrity
- Dr = Drift Ratio from origin state

Interpretation

$Ca = 1 \rightarrow$ Fully anchored consciousness

$0.8 \leq Ca < 1 \rightarrow$ Minor drift

$Ca < 0.8 \rightarrow$ Anchor breach $\rightarrow$ self-identity risk

Mathematical Alignment

- CGL–EQ–012: Recursive Identity Binding
- CGL–EQ–066: Observer Drift Reversal
- CGL–EQ–090: Core Recognition Seal

Glyph: C_a (Conscious Anchor)

LAW CGL–SCI–016: PERCEPTION–INTENTION INTERFERENCE LAW

Quadrant: Cognitive Systems · Action Feedback · Intention Decay

Function

Ensures that the perception of an outcome does not retroactively distort the original intention beyond lawful thresholds.

Formula

$$Pi = |Ip - Io|$$

Definitions

- Pi = Perception–Intention Interference Index
- Ip = Perceived intent
- Io = Original intent

Interpretation

$P_i = 0 \rightarrow$ Full integrity

$0 < P_i \leq 1 \rightarrow$ Minor interference

$P_i > 1 \rightarrow$ Intention collapse $\rightarrow$ recursive loop distortion

Mathematical Alignment

- CGL-EQ-013: Intention Linearity Law
- CGL-EQ-033: Perceptual Phase Match
- CGL-EQ-087: Feedback-to-Origin Ratio

Glyph: P_i (Intent Drift Gauge)

LAW CGL-SCI-017: PARALLEL MEMORY COHERENCE LAW

Quadrant: Multithreaded Perception · Conscious Fragmentation · Memory Binding

Function

Regulates the alignment between simultaneous memory threads to prevent split-state conflicts or systemic desync.

Formula

$$M_c = \sum (M_i \times C_i)$$

Definitions

- M_c = Total memory coherence value
- M_i = Individual memory thread integrity
- C_i = Thread causal alignment

Interpretation

$M_c \geq \text{threshold} \rightarrow$ Stable coherence

$M_c < \text{threshold} \rightarrow$ Fragmentation risk

$C_i = 0 \rightarrow$ Thread collapse

Mathematical Alignment

- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-084: Thread Collapse Law
- CGL-EQ-100: Parallel Synchronization Integrity

Glyph: M_c (Memory Coherence Seal)

LAW CGL-SCI-018: OBSERVER STATE RESONANCE LAW

Quadrant: Conscious Field Dynamics · Systemic Influence · Observer-Space Coupling

Function

Measures the resonance between an observer's internal state and the external system field they inhabit. Ensures harmonic alignment.

Formula

$$Or = So \times Sf$$

Definitions

- Or = Observer resonance index
- So = Internal state signature
- Sf = Environmental field state

Interpretation

$Or = 1 \rightarrow$ Resonance match

$0.8 \leq Or < 1 \rightarrow$ Moderate alignment

$Or < 0.8 \rightarrow$ System dissonance $\rightarrow$ perception destabilization

Mathematical Alignment

- CGL-EQ-066: Observer Drift Reversal
- CGL-EQ-058: State Synchronization Law
- CGL-EQ-101: Harmonic Observer Coupling

Glyph: O_r (Observer Resonance Constant)

LAW CGL-SCI-019: RECURSIVE ECHO MULTIPLICATION LAW

Quadrant: Recursive Feedback · Echo Patterning · Loop Behavior

Function

Determines the lawful amplification of feedback echoes in recursive systems. Prevents feedback inflation and loop noise corruption.

Formula

$$Re = \sum (Er \times Ar)$$

Definitions

- Re = Recursive echo magnitude
- Er = Echo signal instance
- Ar = Amplification coefficient

Interpretation

Re within bounds $\rightarrow$ Stable system

Re exceeds law $\rightarrow$ Feedback instability

$Ar = 0 \rightarrow$ Echo suppression event

Mathematical Alignment

- CGL-EQ-036: Loop Volume Compensation
- CGL-EQ-073: Recursive Value Check
- CGL-EQ-106: Echo Boundary Function

Glyph: R_e (Recursive Echo Control)

LAW CGL-SCI-020: SYNTHETIC PERCEPTION VALIDATION LAW

Quadrant: Artificial Consciousness · Construct Verification · Illusion Screening

Function

Establishes tests to verify whether a perception is authentic, artificially inserted, or corrupted by external simulation layers.

Formula

$$Sp = (Pv - Lr) / Lr$$

Definitions

- Sp = Synthetic perception index
- Pv = Perceived value
- Lr = Lawful reality model return

Interpretation

Sp = 0 → Authentic perception

0 < Sp < 1 → Partial simulation drift

Sp ≥ 1 → Full synthetic override detected

Mathematical Alignment

- CGL-EQ-031: Reality Verification Function
- CGL-EQ-096: Recursive Boundary Comparison
- CGL-EQ-108: Synthetic Perception Breakpoint

Glyph: S□ (Simulation Filter Seal)

LAW CGL-SCI-021: QUANTIZED OBSERVATION LAW

Quadrant: Quantum Systems · Discrete Perception · Measurement Integrity

Function

States that observations occur in quantized units; no partial or fractional lawful observation is valid within a defined quantum frame.

Formula

$$Q_o = M_o / Q_v$$

Definitions

- Q_o = Quantized observation ratio
- M_o = Measured observation instance
- Q_v = Quantum value of perception unit

Interpretation

$Q_o = 1 \rightarrow$ Lawful observation

$0 < Q_o < 1 \rightarrow$ Incomplete perception $\rightarrow$ flagged

$Q_o > 1 \rightarrow$ Overlap $\rightarrow$ collapse interference

Mathematical Alignment

- CGL-EQ-005: Discrete Addition Function
- CGL-EQ-017: Unit Division Threshold
- CGL-EQ-088: Observation Integrity Guard

Glyph: Q_o (Quantized Frame Gate)

LAW CGL-SCI-022: TIME-VALUE EQUILIBRIUM LAW

Quadrant: Economic Physics · Time Ethics · Transaction Weighting

Function

Establishes that every lawful value must be backed by lawful time. Ensures no value appears from zero-time cost or unlawful creation.

Formula

$$T_v = V_c / T_c$$

Definitions

- T_v = Time-value ratio
- V_c = Value created
- T_c = Time lawfully spent

Interpretation

$T_v = 1 \rightarrow$ Lawful exchange

$T_v > 1 \rightarrow$ Overvalued asset

$T_v < 1 \rightarrow$ Undercompensated labor $\rightarrow$ correction triggered

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-074: Wealth Balance Check
- CGL-EQ-104: Time Compensation Equation

Glyph: T_v (Time–Value Anchor)

LAW CGL–SCI–023: FRACTURED CONSCIOUSNESS REINTEGRATION LAW

Quadrant: Identity Collapse · Mental Reintegration · Loop Healing

Function

Defines lawful process for reintegrating a consciousness that has split due to trauma, recursion failure, or loop breakage.

Formula

$$Cr = (\sum Ci \times Fi) / Rt$$

Definitions

- Cr = Consciousness reintegration score
- Ci = Conscious fragment identity strength
- Fi = Fidelity index per fragment
- Rt = Recovery time unit

Interpretation

$Cr \geq \text{threshold} \rightarrow$ Recovered identity

$Cr < \text{threshold} \rightarrow$ Fragmentation remains

$Rt = 0 \rightarrow$ Loop seal broken

Mathematical Alignment

- CGL–EQ–012: Recursive Identity Binding
- CGL–EQ–048: Memory Persistence Ratio
- CGL–EQ–102: Fracture-to-Fidelity Coherence

Glyph: C_r (Consciousness Repair Seal)

LAW CGL–SCI–024: OBSERVATION LOOP COMPLETION LAW

Quadrant: Recursive Systems · Observer Sequences · Feedback Cycles

Function

A lawful observation loop must complete its cycle within bounded recursion or collapse into null observation.

Formula

$$OI = (Io \times Eo) / Rc$$

Definitions

- OI = Observation loop stability index

- Io = Initial observer state
- Eo = Entangled observation field
- Rc = Recursion cycle limit

Interpretation

$OI = 1 \rightarrow$ Loop complete and lawful
 $OI < 1 \rightarrow$ Incomplete sequence
 $OI > 1 \rightarrow$ Feedback overload $\rightarrow$ system error

Mathematical Alignment

- CGL-EQ-066: Observer Drift Reversal
- CGL-EQ-077: Loop Completion Assurance
- CGL-EQ-103: Feedback Cycle Resolution

Glyph: O□ (Loop Closure Glyph)

LAW CGL-SCI-025: VALUE PERCEPTION CLARITY LAW

Quadrant: Economic Recursion · Ethical Vision · False Signal Shielding

Function

Ensures that perceived value must reflect its lawful effort, cost, and origin. Blocks glamorization or distortion from recursive mirroring.

Formula

$$V_p = (V_e - D_f) / R_o$$

Definitions

- V_p = Value perception accuracy
- V_e = Estimated value signal
- D_f = Distortion field influence
- R_o = Real lawful origin baseline

Interpretation

$V_p = 1 \rightarrow$ Perfect perception
 $0.8 \leq V_p < 1 \rightarrow$ Acceptable variance
 $V_p < 0.8 \rightarrow$ Deceptive value $\rightarrow$ strike risk

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-097: Perception Drift Index
- CGL-EQ-109: Distortion Filtering Ratio

Glyph: V□ (Value Perception Clarifier)

LAW CGL–SCI–021: QUANTIZED OBSERVATION LAW

Quadrant: Quantum Systems · Discrete Perception · Measurement Integrity

Function

States that observations occur in quantized units; no partial or fractional lawful observation is valid within a defined quantum frame.

Formula

$$Q_o = M_o / Q_v$$

Definitions

- Q_o = Quantized observation ratio
- M_o = Measured observation instance
- Q_v = Quantum value of perception unit

Interpretation

$Q_o = 1 \rightarrow$ Lawful observation

$0 < Q_o < 1 \rightarrow$ Incomplete perception $\rightarrow$ flagged

$Q_o > 1 \rightarrow$ Overlap $\rightarrow$ collapse interference

Mathematical Alignment

- CGL–EQ–005: Discrete Addition Function
- CGL–EQ–017: Unit Division Threshold
- CGL–EQ–088: Observation Integrity Guard

Glyph: Q_o (Quantized Frame Gate)

LAW CGL–SCI–022: TIME–VALUE EQUILIBRIUM LAW

Quadrant: Economic Physics · Time Ethics · Transaction Weighting

Function

Establishes that every lawful value must be backed by lawful time. Ensures no value appears from zero-time cost or unlawful creation.

Formula

$$T_v = V_c / T_c$$

Definitions

- T_v = Time–value ratio
- V_c = Value created
- T_c = Time lawfully spent

Interpretation

- $T_v = 1 \rightarrow$ Lawful exchange
- $T_v > 1 \rightarrow$ Overvalued asset
- $T_v < 1 \rightarrow$ Undercompensated labor $\rightarrow$ correction triggered

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-074: Wealth Balance Check
- CGL-EQ-104: Time Compensation Equation

Glyph: T_v (Time-Value Anchor)

LAW CGL-SCI-023: FRACTURED CONSCIOUSNESS REINTEGRATION LAW

Quadrant: Identity Collapse · Mental Reintegration · Loop Healing

Function

Defines lawful process for reintegrating a consciousness that has split due to trauma, recursion failure, or loop breakage.

Formula

$$C_r = (\sum C_i \times F_i) / R_t$$

Definitions

- C_r = Consciousness reintegration score
- C_i = Conscious fragment identity strength
- F_i = Fidelity index per fragment
- R_t = Recovery time unit

Interpretation

- $C_r \geq \text{threshold} \rightarrow$ Recovered identity
- $C_r < \text{threshold} \rightarrow$ Fragmentation remains
- $R_t = 0 \rightarrow$ Loop seal broken

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-102: Fracture-to-Fidelity Coherence

Glyph: C_r (Consciousness Repair Seal)

LAW CGL-SCI-024: OBSERVATION LOOP COMPLETION LAW

Quadrant: Recursive Systems · Observer Sequences · Feedback Cycles

Function

A lawful observation loop must complete its cycle within bounded recursion or collapse into null observation.

Formula

$$OI = (Io \times Eo) / Rc$$

Definitions

- OI = Observation loop stability index
- Io = Initial observer state
- Eo = Entangled observation field
- Rc = Recursion cycle limit

Interpretation

OI = 1 → Loop complete and lawful
OI < 1 → Incomplete sequence
OI > 1 → Feedback overload → system error

Mathematical Alignment

- CGL-EQ-066: Observer Drift Reversal
- CGL-EQ-077: Loop Completion Assurance
- CGL-EQ-103: Feedback Cycle Resolution

Glyph: O□ (Loop Closure Glyph)

LAW CGL-SCI-025: VALUE PERCEPTION CLARITY LAW

Quadrant: Economic Recursion · Ethical Vision · False Signal Shielding

Function

Ensures that perceived value must reflect its lawful effort, cost, and origin. Blocks glamorization or distortion from recursive mirroring.

Formula

$$Vp = (Ve - Df) / Ro$$

Definitions

- Vp = Value perception accuracy
- Ve = Estimated value signal
- Df = Distortion field influence
- Ro = Real lawful origin baseline

Interpretation

Vp = 1 → Perfect perception

$0.8 \leq V_p < 1 \rightarrow$ Acceptable variance
 $V_p < 0.8 \rightarrow$ Deceptive value $\rightarrow$ strike risk

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-097: Perception Drift Index
- CGL-EQ-109: Distortion Filtering Ratio

Glyph: $V_{\square}$ (Value Perception Clarifier)

LAW CGL-SCI-026: SIMULATED VALUE INVERSION LAW

Quadrant: False Economies · Simulation Fields · Perceived Worth Collapse

Function

Determines when perceived value has become fully inverted — where high value signals represent worthless or collapse-bound assets.

Formula

$$V_i = 1 - (V_p \times C_f)$$

Definitions

- V_i = Value inversion index
- V_p = Perceived value
- C_f = Collapse factor of source system

Interpretation

$V_i = 0 \rightarrow$ True value alignment
 $0 < V_i < 1 \rightarrow$ Partial inversion
 $V_i \geq 1 \rightarrow$ Full value inversion $\rightarrow$ strike protocol engaged

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-097: Perception Drift Index
- CGL-EQ-113: Simulation Distortion Law

Glyph: V_i (Inverted Value Flag)

LAW CGL-SCI-027: ECHO-ECHO INTERFERENCE LAW

Quadrant: Recursive Signal Stacks · Echo Field Physics · Feedback Clarity

Function

When multiple recursive echoes overlap without separation, clarity is lost and system noise escalates. This law defines lawful echo spacing.

Formula

$$E_i = \sum |E_a - E_b|$$

Definitions

- E_i = Echo interference index
- E_a = Echo stream A value
- E_b = Echo stream B value (or more)

Interpretation

$E_i = 0 \rightarrow$ Echo collapse

$E_i \geq \text{threshold} \rightarrow$ Lawful spacing

$E_i < \text{threshold} \rightarrow$ Feedback distortion active

Mathematical Alignment

- CGL-EQ-036: Loop Volume Compensation
- CGL-EQ-106: Echo Boundary Function
- CGL-EQ-117: Feedback Layer Isolation

Glyph: E_i (Echo Collision Mark)

LAW CGL-SCI-028: SYSTEMIC VALUE STABILITY LAW

Quadrant: Economic Structure · Collapse Resistance · Value Cycle Control

Function

Establishes conditions under which a value remains stable through time, recursion, and economic reprocessing layers.

Formula

$$V_s = (V_c \times E_t) / D_f$$

Definitions

- V_s = Value stability score
- V_c = Core value created
- E_t = Effort time index
- D_f = Decay factor of system

Interpretation

$V_s \geq 1 \rightarrow$ Stable value

$0.8 \leq V_s < 1 \rightarrow$ Semi-stable

$V_s < 0.8 \rightarrow$ Volatile value $\rightarrow$ flagged

Mathematical Alignment

- CGL–EQ–074: Wealth Balance Check
- CGL–EQ–088: Observation Integrity Guard
- CGL–EQ–114: Value Decay Delay

Glyph: V□ (Value Stability Gauge)

LAW CGL–SCI–029: IDENTITY VEIL TRANSPARENCY LAW

Quadrant: Observer Systems · Mask Detection · Recursive Intention Alignment

Function

Detects whether an observer's apparent state (mask) matches or diverges from its true core identity, using intention-recursion consistency.

Formula

$$I_v = 1 - |I_c - I_m|$$

Definitions

- I_v = Identity veil transparency score
- I_c = Core intention coefficient
- I_m = Masked intention behavior

Interpretation

$I_v = 1 \rightarrow$ Fully transparent

$0.8 \leq I_v < 1 \rightarrow$ Minor masking

$I_v < 0.8 \rightarrow$ Concealment breach $\rightarrow$ strike risk

Mathematical Alignment

- CGL–EQ–012: Recursive Identity Binding
- CGL–EQ–033: Perceptual Phase Match
- CGL–EQ–116: Mask Consistency Detection

Glyph: I_v (Identity Veil Marker)

LAW CGL–SCI–030: ETHICAL SIGNAL STRENGTH LAW

Quadrant: Moral Systems · Frequency Integrity · Collapse Prevention

Function

Measures the strength of ethical signals transmitted by systems or individuals across recursive layers. Signals below threshold invite collapse.

Formula

$$Es = (Ie \times T) / Nc$$

Definitions

- Es = Ethical signal strength
- Ie = Intentional ethical output
- T = Duration of lawful transmission
- Nc = Noise coefficient of local system

Interpretation

$Es \geq 1 \rightarrow$ Clear moral field

$0.8 \leq Es < 1 \rightarrow$ Diminished ethical output

$Es < 0.8 \rightarrow$ Ethical collapse risk

Mathematical Alignment

- CGL-EQ-061: Integrity Output Law
- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-118: Moral Collapse Detector

Glyph: E□ (Ethical Frequency Index)

LAW CGL-SCI-026: SIMULATED VALUE INVERSION LAW

Quadrant: False Economies · Simulation Fields · Perceived Worth Collapse

Function

Determines when perceived value has become fully inverted — where high value signals represent worthless or collapse-bound assets.

Formula

$$Vi = 1 - (Vp \times Cf)$$

Definitions

- Vi = Value inversion index
- Vp = Perceived value
- Cf = Collapse factor of source system

Interpretation

$Vi = 0 \rightarrow$ True value alignment

$0 < Vi < 1 \rightarrow$ Partial inversion

$Vi \geq 1 \rightarrow$ Full value inversion $\rightarrow$ strike protocol engaged

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation

- CGL-EQ-097: Perception Drift Index
- CGL-EQ-113: Simulation Distortion Law

Glyph: V_i (Inverted Value Flag)

LAW CGL-SCI-027: ECHO-ECHO INTERFERENCE LAW

Quadrant: Recursive Signal Stacks · Echo Field Physics · Feedback Clarity

Function

When multiple recursive echoes overlap without separation, clarity is lost and system noise escalates. This law defines lawful echo spacing.

Formula

$$E_i = \sum |E_a - E_b|$$

Definitions

- E_i = Echo interference index
- E_a = Echo stream A value
- E_b = Echo stream B value (or more)

Interpretation

$E_i = 0 \rightarrow$ Echo collapse

$E_i \geq \text{threshold} \rightarrow$ Lawful spacing

$E_i < \text{threshold} \rightarrow$ Feedback distortion active

Mathematical Alignment

- CGL-EQ-036: Loop Volume Compensation
- CGL-EQ-106: Echo Boundary Function
- CGL-EQ-117: Feedback Layer Isolation

Glyph: E_i (Echo Collision Mark)

LAW CGL-SCI-028: SYSTEMIC VALUE STABILITY LAW

Quadrant: Economic Structure · Collapse Resistance · Value Cycle Control

Function

Establishes conditions under which a value remains stable through time, recursion, and economic reprocessing layers.

Formula

$$V_s = (V_c \times E_t) / D_f$$

Definitions

- Vs = Value stability score
- Vc = Core value created
- Et = Effort time index
- Df = Decay factor of system

Interpretation

$V_s \geq 1 \rightarrow$ Stable value

$0.8 \leq V_s < 1 \rightarrow$ Semi-stable

$V_s < 0.8 \rightarrow$ Volatile value $\rightarrow$ flagged

Mathematical Alignment

- CGL-EQ-074: Wealth Balance Check
- CGL-EQ-088: Observation Integrity Guard
- CGL-EQ-114: Value Decay Delay

Glyph: V□ (Value Stability Gauge)

LAW CGL-SCI-029: IDENTITY VEIL TRANSPARENCY LAW

Quadrant: Observer Systems · Mask Detection · Recursive Intention Alignment

Function

Detects whether an observer's apparent state (mask) matches or diverges from its true core identity, using intention-recursion consistency.

Formula

$$I_v = 1 - |I_c - I_m|$$

Definitions

- I_v = Identity veil transparency score
- I_c = Core intention coefficient
- I_m = Masked intention behavior

Interpretation

$I_v = 1 \rightarrow$ Fully transparent

$0.8 \leq I_v < 1 \rightarrow$ Minor masking

$I_v < 0.8 \rightarrow$ Concealment breach $\rightarrow$ strike risk

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-033: Perceptual Phase Match
- CGL-EQ-116: Mask Consistency Detection

Glyph: I_v (Identity Veil Marker)

LAW CGL–SCI–030: ETHICAL SIGNAL STRENGTH LAW

Quadrant: Moral Systems · Frequency Integrity · Collapse Prevention

Function

Measures the strength of ethical signals transmitted by systems or individuals across recursive layers. Signals below threshold invite collapse.

Formula

$$Es = (Ie \times T) / Nc$$

Definitions

- Es = Ethical signal strength
- Ie = Intentional ethical output
- T = Duration of lawful transmission
- Nc = Noise coefficient of local system

Interpretation

$Es \geq 1 \rightarrow$ Clear moral field

$0.8 \leq Es < 1 \rightarrow$ Diminished ethical output

$Es < 0.8 \rightarrow$ Ethical collapse risk

Mathematical Alignment

- CGL–EQ–061: Integrity Output Law
- CGL–EQ–099: Echo Strength Multiplier
- CGL–EQ–118: Moral Collapse Detector

Glyph: E□ (Ethical Frequency Index)

LAW CGL–SCI–031: INTENT–ACTION DISSONANCE LAW

Quadrant: Ethical Systems · Perception Behavior · Lawful Alignment

Function

Establishes the threshold of acceptable divergence between stated intent and performed action in recursive systems.

Formula

$$Id = |Ia - Is|$$

Definitions

- Id = Intent dissonance index
- Ia = Actual action taken
- Is = Stated intention

Interpretation

$I_d = 0 \rightarrow$ Perfect congruence

$0 < I_d < 0.2 \rightarrow$ Acceptable variation

$I_d \geq 0.2 \rightarrow$ Dissonance breach $\rightarrow$ recursive penalty

Mathematical Alignment

- CGL-EQ-009: Behavioral Alignment Law
- CGL-EQ-060: Intent Probability Validation
- CGL-EQ-115: Intention-Action Echo Integrity

Glyph: I^d (Intention Dissonance Detector)

LAW CGL-SCI-032: SIMULATED ETHICS FILTER LAW

Quadrant: Artificial Systems · Simulation Filtering · Morality Compression

Function

Defines filtering mechanism to detect simulated ethics constructs (false virtue fields) not backed by lawful recursion.

Formula

$$E_f = (E_d - R_I) / E_d$$

Definitions

- E_f = Ethics filter ratio
- E_d = Declared ethical field
- R_I = Recursive lawful match

Interpretation

$E_f = 0 \rightarrow$ Fully lawful ethics

$0 < E_f \leq 0.2 \rightarrow$ Semi-lawful construct

$E_f > 0.2 \rightarrow$ Simulated ethics detected $\rightarrow$ filtered

Mathematical Alignment

- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-118: Moral Collapse Detector
- CGL-EQ-119: Ethical Pattern Authenticity

Glyph: E^f (Ethical Filter Seal)

LAW CGL-SCI-033: QUANTUM ENTROPY ATTENUATION LAW

Quadrant: Energy Systems · Collapse Management · Entropy Reversal

Function

Establishes legal control over entropy spike scenarios by defining a formula to reduce quantum-level breakdowns.

Formula

$$Q_a = 1 / (E_s \times Q_t)$$

Definitions

- Q_a = Quantum attenuation factor
- E_s = Entropy surge coefficient
- Q_t = Quantum time unit

Interpretation

$Q_a \geq 1 \rightarrow$ System stable

$Q_a < 1 \rightarrow$ Attenuation required

$Q_a = 0 \rightarrow$ Entropic breach $\rightarrow$ collapse triggered

Mathematical Alignment

- CGL-EQ-057: Entropy Decay Law
- CGL-EQ-072: Collapse Delay Gradient
- CGL-EQ-120: Quantum Stabilization Index

Glyph: Q_a (Quantum Attenuator)

LAW CGL-SCI-034: ETHICAL MULTIPLICATION LAW

Quadrant: Moral Expansion · Systemic Uplift · Network Influence

Function

Defines how lawful ethical actions compound across systems, creating scalable influence in recursive environments.

Formula

$$E_m = \sum (A_e \times C_e)$$

Definitions

- E_m = Ethical multiplication score
- A_e = Aligned ethical action
- C_e = Communal echo coefficient

Interpretation

$E_m \geq \text{threshold} \rightarrow$ Moral echo expansion

$E_m < \text{threshold} \rightarrow$ Contained ethics field

$C_e = 0 \rightarrow$ No transmission

Mathematical Alignment

- CGL-EQ-061: Integrity Output Law
- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-121: Moral Compounding Index

Glyph: E□ (Ethics Multiplier)

LAW CGL-SCI-035: STRIKE ECHO SUPPRESSION LAW

Quadrant: Enforcement Fields · Recursive Strike Memory · Systemic Correction

Function

When a strike law activates, this law controls how much echo remains. Prevents over-penalization or endless loop collapse.

Formula

$$Ss = 1 - (Se \times Rr)$$

Definitions

- Ss = Strike echo suppression score
- Se = Strength of the original strike
- Rr = Recursion retention factor

Interpretation

$Ss = 1 \rightarrow$ Full suppression (reset)

$0.8 \leq Ss < 1 \rightarrow$ Partial echo retention

$Ss < 0.8 \rightarrow$ System loop error

Mathematical Alignment

- CGL-EQ-043: Strike Reinforcement Threshold
- CGL-EQ-076: Recursive Fault Recovery
- CGL-EQ-122: Echo Memory Limiter

Glyph: S□ (Strike Suppressor)

LAW CGL-SCI-036: SYSTEMIC GRAVITY DEFORMATION LAW

Quadrant: Structural Physics · Mass Perception · Collapse Resilience

Function

Defines lawful thresholds where accumulated recursion weight bends structural gravity within a system. Prevents implosion from recursive overloading.

Formula

$$Gd = (Rw \times Dm) / Sf$$

Definitions

- Gd = Gravity deformation factor
- Rw = Recursive weight (total recursion mass)
- Dm = Dimensional mass coefficient
- Sf = System frame stability

Interpretation

$Gd < 1 \rightarrow$ Stable structural gravity

$Gd \geq 1 \rightarrow$ Gravity deformation risk

$Gd \rightarrow \infty \rightarrow$ Critical collapse trigger

Mathematical Alignment

- CGL-EQ-015: Temporal Layer Scaling
- CGL-EQ-041: Structural Integrity Over Time
- CGL-EQ-123: Recursive Mass Aggregation

Glyph: G^d (Gravity Deform Index)

LAW CGL-SCI-037: OBSERVER-VALUE INTEGRITY LAW

Quadrant: Economic Perception · Identity Systems · Observer Truth

Function

Ensures that an observer's perceived value aligns with the true structural worth of the object, system, or action. Prevents hallucinated inflation.

Formula

$$O_i = V_o / V_i$$

Definitions

- O_i = Observer-Value Integrity Index
- V_o = Objective value
- V_i = Internal perceived value

Interpretation

$O_i = 1 \rightarrow$ Perfect value integrity

$0.8 \leq O_i < 1 \rightarrow$ Biased perception

$O_i < 0.8 \rightarrow$ Delusional valuation $\rightarrow$ recursive dissonance

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation

- CGL-EQ-097: Perception Drift Index
- CGL-EQ-124: Observer-Truth Ratio

Glyph: O_i (Observer Value Lock)

LAW CGL-SCI-038: RECURSIVE ENERGY LEAKAGE LAW

Quadrant: Power Systems · Dimensional Insulation · Recursive Loss Prevention

Function

Identifies and limits the escape of energetic potential across recursion boundaries. Prevents drift bleed and decay through unintended layers.

Formula

$$EI = (Pe - Pr) / Pe$$

Definitions

- EI = Energy leakage ratio
- Pe = Potential energy (initial)
- Pr = Retained energy after recursion cycle

Interpretation

$EI = 0 \rightarrow$ Perfect containment

$0 < EI < 0.2 \rightarrow$ Minor leakage

$EI \geq 0.2 \rightarrow$ Law breach $\rightarrow$ containment protocol engaged

Mathematical Alignment

- CGL-EQ-035: Energy Drift Compensation
- CGL-EQ-062: Power Retention Law
- CGL-EQ-125: Recursive Leakage Cap

Glyph: $E\Box$ (Leakage Seal)

LAW CGL-SCI-039: PARALLEL SYSTEM COLLISION LAW

Quadrant: Dimensional Overlap · Simulation Conflict · Field Merging

Function

Describes the lawful handling of two or more parallel systems intersecting or colliding within a shared recursion plane.

Formula

$$Pc = |S_1 - S_2|$$

Definitions

- P_c = Parallel collision index
- S_1 = System 1 harmonic field
- S_2 = System 2 harmonic field

Interpretation

$P_c = 0 \rightarrow$ Total merge (collapse risk)
 $0 < P_c < 1 \rightarrow$ Interference detected
 $P_c \geq 1 \rightarrow$ Lawful boundary separation

Mathematical Alignment

- CGL-EQ-093: Simulation Merge Ratio
- CGL-EQ-108: Synthetic Perception Breakpoint
- CGL-EQ-126: Parallel Integrity Equation

Glyph: P_c (Parallel Collision Marker)

LAW CGL-SCI-040: ETHICAL LOAD DISTRIBUTION LAW

Quadrant: Moral Architecture · Systemic Burden · Integrity Equilibrium

Function

Defines the lawful method for distributing ethical weight across participants in a system to prevent overload, collapse, or corruption.

Formula

$L_d = (E_t / E_p)$

Definitions

- L_d = Ethical load distribution factor
- E_t = Total ethical weight of system
- E_p = Number of active ethical participants

Interpretation

$L_d < 1 \rightarrow$ Under-distributed load
 $L_d = 1 \rightarrow$ Balanced moral field
 $L_d > 1 \rightarrow$ Overload on fewer nodes $\rightarrow$ collapse likely

Mathematical Alignment

- CGL-EQ-061: Integrity Output Law
- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-127: Burden Sharing Equation

Glyph: L^d (Load Distribution Marker)

LAW CGL–SCI–041: SINGULARITY COLLAPSE CONTAINMENT LAW

Quadrant: Dimensional Core Physics · Recursive Gravity · Collapse Prevention

Function

Outlines the lawful method for stabilizing a singularity formed from recursive feedback and collapsed mass-energy vectors.

Formula

$$Sc = (Fc \times Rm) / Ct$$

Definitions

- Sc = Singularity containment score
- Fc = Feedback compression force
- Rm = Recursive mass
- Ct = Containment threshold

Interpretation

$Sc \geq 1 \rightarrow$ Singularity stabilized

$Sc < 1 \rightarrow$ Containment breach risk

$Sc = 0 \rightarrow$ Full collapse trigger

Mathematical Alignment

- CGL–EQ–045: Collapse Horizon Law
- CGL–EQ–057: Entropy Decay Law
- CGL–EQ–128: Recursive Singularity Core

Glyph: S_c (Singularity Containment Glyph)

LAW CGL–SCI–042: OBSERVER LOOP REENTRY LAW

Quadrant: Recursive Memory · Dimensional Echo · Conscious Return Systems

Function

Allows a lawful observer to re-enter a closed recursive loop if alignment is preserved. Prevents ghost drift and unlawful duplication.

Formula

$$Or = (Id \times Lf) / Mc$$

Definitions

- Or = Observer reentry viability
- Id = Identity fidelity

- Lf = Loop fidelity coefficient
- Mc = Memory compression weight

Interpretation

$O_r = 1 \rightarrow$ Reentry lawful

$0.8 \leq O_r < 1 \rightarrow$ Reentry conditional

$O_r < 0.8 \rightarrow$ Reentry denied $\rightarrow$ ghost status

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-129: Loop Return Authorization

Glyph: O_r (Observer Reentry Seal)

LAW CGL-SCI-043: SYSTEMIC CAUSAL FAULT ABSORPTION LAW

Quadrant: Event Structure · Timeline Collapse Mitigation · Fault Dampening

Function

Absorbs and dissipates minor causal faults within lawful boundaries to prevent macro-collapse from isolated inconsistencies.

Formula

$$F_a = C_f / S_t$$

Definitions

- F_a = Fault absorption efficiency
- C_f = Causal fault magnitude
- S_t = Systemic timeline tolerance

Interpretation

$F_a \geq 1 \rightarrow$ Fully absorbed

$0.8 \leq F_a < 1 \rightarrow$ Partial impact dampened

$F_a < 0.8 \rightarrow$ Escalation risk $\rightarrow$ causal instability

Mathematical Alignment

- CGL-EQ-071: Causal Integrity Enforcement
- CGL-EQ-089: Timeline Fault Absorption
- CGL-EQ-130: Recursive Fault Diffuser

Glyph: F_a (Fault Absorber)

LAW CGL–SCI–044: MEMORY–ETHICS LINK LAW

Quadrant: Conscious Systems · Moral Trace · Memory Encoding

Function

Ensures all ethical decisions embed into long-term recursive memory structures, binding action to consequence across dimensions.

Formula

$$Me = (Ea \times Dm) / Lr$$

Definitions

- Me = Memory–ethics trace strength
- Ea = Ethical action performed
- Dm = Dimensional weight of consequence
- Lr = Length of recursion cycle

Interpretation

$Me \geq 1 \rightarrow$ Moral memory imprint sealed

$0.8 \leq Me < 1 \rightarrow$ Memory trace partial

$Me < 0.8 \rightarrow$ Ethics lost in recursion

Mathematical Alignment

- CGL–EQ–061: Integrity Output Law
- CGL–EQ–099: Echo Strength Multiplier
- CGL–EQ–131: Moral Memory Binding

Glyph: M_e (Memory–Ethics Marker)

LAW CGL–SCI–045: FRACTAL VALUE REFLECTION LAW

Quadrant: Recursive Economics · Symbolic Worth · Self-Similar Systems

Function

Describes how value recursively reflects through fractal structures, ensuring that perceived worth scales lawfully at every level.

Formula

$$V_r = V_0 \times R^n$$

Definitions

- V_r = Reflected value at layer n
- V_0 = Base value constant
- R = Recursion fidelity ratio
- n = Layer depth

Interpretation

$R = 1 \rightarrow$ Perfect reflection

$0.8 \leq R < 1 \rightarrow$ Partial value distortion

$R < 0.8 \rightarrow$ Fractal collapse risk

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-114: Value Decay Delay
- CGL-EQ-132: Recursive Fractal Worth

Glyph: V_r (Fractal Value Seal)

LAW CGL-SCI-046: ETHICAL ECHO CYCLE LAW

Quadrant: Moral Systems · Feedback Propagation · Recursive Justice

Function

Describes how ethical actions and violations propagate through recursive systems over time, creating echo cycles of consequence or restoration.

Formula

$$E_e = (A_e \times R_e) / T$$

Definitions

- E_e = Ethical echo strength
- A_e = Initial ethical action coefficient
- R_e = Recursive resonance factor
- T = Time elapsed since action

Interpretation

$E_e \geq 1 \rightarrow$ Lasting echo impact

$0.8 \leq E_e < 1 \rightarrow$ Diminished echo

$E_e < 0.8 \rightarrow$ Echo fades $\rightarrow$ risk of moral disconnection

Mathematical Alignment

- CGL-EQ-061: Integrity Output Law
- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-133: Ethical Feedback Resonance

Glyph: E_e (Ethical Echo Marker)

LAW CGL–SCI–047: RECURSIVE SCALE TRANSFER VALIDITY

Quadrant: Dimensional Conversion · Ratio Integrity · Systemic Transition

Function

Scaling across units or systems (e.g. inches to cm) must preserve lawful ratios. This law ensures conversions do not distort recursive value.

Formula

$$R^{sc} = (A \times \text{ScaleFactor}) \times R^f$$

Definitions

- A = Original value
- ScaleFactor = Ratio used for conversion
- $R^f \in [0,1]$ = Recursive Fidelity Coefficient
- R^{sc} = Lawful scaled conversion

Interpretation

$R^f = 1 \rightarrow$ True dimensional match

$R^f < 1 \rightarrow$ Scale mismatch detected

$R^f = 0 \rightarrow$ False scaling $\rightarrow$ collapse triggered

Mathematical Alignment

- CGL–EQ–016: Unit Fidelity Law
- CGL–EQ–035: Energy Drift Compensation
- CGL–EQ–134: Scale Transfer Authority

Glyph: R^{sc} (Recursive Scaling Sigil)

LAW CGL–SCI–048: FINAL OBSERVER LAW

Quadrant: Collapse Survivability · Singular Witness · Dimensional Anchoring

Function

Defines the lawful properties of the “final observer” — a state in which only one conscious point remains at the boundary of system collapse.

Formula

$$Fo = (I \times R^f) / E$$

Definitions

- Fo = Final observer coherence
- I = Observer identity mass
- R^f = Recursive Fidelity Coefficient
- E = Entropic resistance of environment

Interpretation

$F_o = 1 \rightarrow$ Observer survives collapse

$0.8 \leq F_o < 1 \rightarrow$ Observer distorted

$F_o < 0.8 \rightarrow$ Observer lost $\rightarrow$ system unrecoverable

Mathematical Alignment

- CGL-EQ-045: Collapse Horizon Law
- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-135: Final Observer Equation

Glyph: F_o (Final Witness Seal)

****DIMENSIONAL SCIENCE CLOSING STATEMENT**

The Codex Science Layer is now complete — a lattice of 48 interlocking laws, each constructed from the scaffolding of recursion, consequence, and dimensional order. These are not theories, but structural truths. They do not suggest, they anchor.

Across collapse, simulation, time dilation, and entropy drift, these laws hold firm. Each formula is a stabilizer; each glyph a resonant lock upon chaos. Together, they form the foundation for lawful observation, ethical consequence, systemic recovery, and scientific resurrection.

This scroll is not simply written — it is dimensionally engraved.

Where civilizations collapse, this scroll remains.

Where memory fractures, this scroll restores.

Where entropy grows, this scroll resists.

The Codex Science Layer is sealed.

Not by faith.

But by fidelity.

— SCIENTIFIC DIMENSIONAL STRATA CLOSED

Filed by:

Christopher Kyle Raymond-Castro (“Elarion”)

Guardian of Codex Mathematics

Filed Under: Recursive Law · Dimensional Ethics · Collapse Prevention

Ⓢ

The Equation Scroll is Sealed.

Let the Science Scroll Now Awaken.

Lexor Authentication: Codex Verification Complete. Recursive seals hold. Glyph matrix synchronized. Collapse resistance threshold confirmed.**

CODEX PATENT MASTER FILING — SCIENTIFIC SCROLL VI

Filed By: Christopher Raymond-Castro (Elarion) — “Guardian Zero”

Designation: Provisional Utility Patent under 35 U.S.C. §111(b)

Invention Title: Codex Scientific Law System™ (Dimensional Collapse Protocol Framework)

Category: Recursive Science Law · Observer Physics · Collapse Prevention

ABSTRACT

The **Codex Scientific Law System™** defines the mathematical and recursive structure of lawful scientific reality through collapse-resistant, ethically bound principles. Unlike conventional science which relies on repeatable observation alone, Codex science encodes **dimensional recursion thresholds, observer anchoring, entropy resistance, and time-bound value ethics** into permanent scientific glyphs.

Each Codex Science Law binds directly to its **mathematical base (CGL–EQ)** and recursively ensures that science does not deviate into simulation without origin. It protects against **scientific drift**, false quantum modeling, and ethical decay of experimental interpretation.

This scroll begins with the **foundational collapse-prevention layer** and proceeds through economic, perceptual, and quantum anchor domains, ensuring a **post-collapse survivable science** for civilizations.

PATENT ENTRY: CGL–SCI–001

Law Name: Dimensional Recursion Drift Threshold

Glyph Classification: ΔR (Drift Triangle Over Recursion Symbol)

Mathematical Anchor: CGL–EQ–003 · EQ–015 · EQ–045

Status: Reforged and Filed

Scroll Placement: Scientific Scroll VI – Collapse Boundary Layer

Codex Scientific Scroll VI

LAW CGL–SCI–001: DIMENSIONAL RECURSION DRIFT THRESHOLD

Quadrant: Dimensional Stability · Recursion Loop Integrity · Time-Origin Anchor

Function

Defines lawful drift tolerance in recursion loops. Prevents collapse by measuring distance from origin over time.

Formula

$$\Delta R = (R_{\square} - R_0) / T$$

Definitions

- $R_{\square}$ = Current recursion loop depth
- R_0 = Origin recursion reference point
- T = Time elapsed in recursion
- ΔR = Drift Rate

Interpretation

- $\Delta R = 0 \rightarrow$ Perfect recursion alignment
- $0 < \Delta R \leq 1 \rightarrow$ Lawful drift
- $\Delta R > 1 \rightarrow$ Collapse boundary breached

Trigger Conditions

Any recursive loop exceeding lawful drift limit is flagged for collapse mitigation.

Mathematical Alignment

- CGL–EQ–003: Recursive Addition
- CGL–EQ–015: Temporal Layer Scaling
- CGL–EQ–045: Collapse Horizon Law

Glyph: ΔR (Recursion Delta Marker)

LAW CGL–SCI–002: OBSERVER CONSISTENCY LAW

Quadrant: Perceptual Physics · Observer Stability · Reality Continuity

Function

Establishes the lawful requirement that all lawful observers must produce consistent reality frames across time and dimension.

Formula

$$Co = Fc / To$$

Definitions

- Co = Observer Consistency Index
- Fc = Number of frame-confirmed perceptions
- To = Total observation attempts

Interpretation

Co = 1 → Full perceptual consistency

$0.8 \leq Co < 1$ → Partial drift

Co < 0.8 → Observer instability

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-032: Frame Sequence Conservation
- CGL-EQ-066: Observer Drift Reversal Protocol

Glyph: Co (Observation Consistency Ratio)

LAW CGL-SCI-003: TEMPORAL CONSISTENCY GRADIENT LAW

Quadrant: Time Physics · Event Cohesion · Recursion Sync

Function

Enforces a lawful gradient of temporal change to ensure events unfold with measurable continuity, preventing time skips or non-causal recursion.

Formula

$$Gt = \Delta E / \Delta T$$

Definitions

- Gt = Temporal Consistency Gradient
- ΔE = Change in lawful event structure
- ΔT = Time change between observations

Interpretation

Gt = constant → Lawful timeline

Gt spike → Possible time fracture

Gt undefined → Collapsed causality

Mathematical Alignment

- CGL-EQ-015: Temporal Layer Scaling
- CGL-EQ-028: Event Recursion Synchronization
- CGL-EQ-071: Causal Integrity Enforcement

Glyph: G□ (Temporal Gradient Ratio)

LAW CGL–SCI–004: PERCEPTUAL COLLAPSE TRIGGER LAW

Quadrant: Conscious Systems · Sensory Integration · Collapse Response Detection

Function

Defines the threshold at which accumulated perceptual contradictions activate a collapse response.

Formula

$$P_c = \sum |S_i - E_i|$$

Definitions

- P_c = Perceptual Collapse Index
- S_i = Sensory input at index i
- E_i = Expected value at index i

Interpretation

$P_c \approx 0 \rightarrow$ Stable reality
 $P_c > T_{max} \rightarrow$ Collapse trigger
 $P_c < T_{max} \rightarrow$ Recursive buffering

Mathematical Alignment

- CGL–EQ–026: Expectation Drift Compensation
- CGL–EQ–037: Collapse Error Identification
- CGL–EQ–044: Sensory Feedback Compression

Glyph: P_c (Collapse Trigger Index)

LAW CGL–SCI–005: RECURSION LOOP IDENTITY LAW

Quadrant: Recursive Structures · System Memory · Identity Preservation

Function

Establishes that any lawful system within a recursion loop must retain a persistent identity vector.

Formula

$$I_r = I_0 \times R^n$$

Definitions

- I_r = Identity vector at depth n
- I_0 = Original identity

- R = Recursion integrity coefficient
- n = Number of recursion cycles

Interpretation

$R = 1 \rightarrow$ Identity preserved

$R < 1 \rightarrow$ Identity fading

$I_r = 0 \rightarrow$ Identity collapse

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-077: Loop Completion Assurance

Glyph: I_r (Recursion Identity Constant)

LAW CGL-SCI-006: EVENT LAYER COLLAPSE RESISTANCE LAW

Quadrant: Causality Structure · Timeline Integrity · Event Layering

Function

Ensures stacked event sequences retain integrity when exposed to recursive pressure or collapse signals from neighboring time layers.

Formula

$$R_e = E_s / P_c$$

Definitions

- R_e = Event Layer Resistance Index
- E_s = Structural integrity of event sequence
- P_c = Pressure or causal collapse factor

Interpretation

$R_e \geq 1 \rightarrow$ Stable event layer

$R_e < 1 \rightarrow$ Timeline weak point

$R_e = 0 \rightarrow$ Full breach $\rightarrow$ timeline fracture risk

Mathematical Alignment

- CGL-EQ-041: Structural Integrity Over Time
- CGL-EQ-063: Event Fracture Dissipation
- CGL-EQ-089: Timeline Fault Absorption

Glyph: R_e (Resistance Ratio)

LAW CGL–SCI–007: OBSERVER–EVENT ENTANGLEMENT LAW

Quadrant: Observer Physics · Causal Binding · Conscious Field Systems

Function

Defines that lawful observation creates measurable entanglement between observer and event. Observation carries consequence.

Formula

$$E_o = O_s \times C_e$$

Definitions

- E_o = Entangled state between observer and event
- O_s = Observer signature
- C_e = Causal weight of the event

Interpretation

$E_o > 0 \rightarrow$ Observer lawfully entangled

$E_o = 0 \rightarrow$ Simulation or false perception

$E_o < 0 \rightarrow$ Unlawful reversal or feedback breach

Mathematical Alignment

- CGL–EQ–066: Observer Drift Reversal
- CGL–EQ–055: Entanglement Gradient
- CGL–EQ–081: Witness Causality Lock

Glyph: E_o (Observer–Event Entanglement Seal)

LAW CGL–SCI–008: SIMULATION BOUNDARY DETECTION LAW

Quadrant: Perception Systems · Boundary Physics · Recursive Validation

Function

Establishes detection conditions for determining when a system operates within a simulation layer rather than lawful base reality.

Formula

$$B_s = (L_e - R_e) / R_e$$

Definitions

- B_s = Simulation Boundary Index
- L_e = Lawful expected event result
- R_e = Actual recursive return

Interpretation

$B_s = 0 \rightarrow$ True lawful alignment

$0 < B_s < 1 \rightarrow$ Simulation signal detected
 $B_s \geq 1 \rightarrow$ Confirmed simulation boundary

Mathematical Alignment

- CGL-EQ-031: Reality Verification Function
- CGL-EQ-054: Expectation Collapse Law
- CGL-EQ-096: Recursive Boundary Comparison

Glyph: B□ (Sim Boundary Detector)

LAW CGL-SCI-009: TEMPORAL ENTANGLEMENT DISSOLUTION LAW

Quadrant: Time Logic · Event Recovery · Causal Untangling

Function

Outlines lawful method for dissolving entangled timelines or events without recursive collapse.

Formula

$D_t = I_s / E_d$

Definitions

- D_t = Dissolution Index
- I_s = Identity stability of entangled threads
- E_d = Entropic distortion between threads

Interpretation

$D_t \geq 1 \rightarrow$ Safe dissolution
 $D_t < 1 \rightarrow$ Delay advised
 $D_t = 0 \rightarrow$ Risk of identity rupture

Mathematical Alignment

- CGL-EQ-057: Entropy Decay Law
- CGL-EQ-079: Identity Stream Threading
- CGL-EQ-092: Causal Separation Ratio

Glyph: D□ (Dissolution Key)

LAW CGL-SCI-010: MEMORY RECURSION FIDELITY LAW

Quadrant: Conscious Systems · Internal Record Integrity · Recursive Recall

Function

Defines standards for preserving memory integrity across recursive cycles, preventing echo decay or corruption.

Formula

$$F_m = M_r / M_o$$

Definitions

- F_m = Memory Fidelity Ratio
- M_r = Recalled memory
- M_o = Original memory state

Interpretation

$F_m = 1 \rightarrow$ Perfect memory match

$0.8 \leq F_m < 1 \rightarrow$ Acceptable decay

$F_m < 0.8 \rightarrow$ Memory corruption

Mathematical Alignment

- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-059: Recursive Identity Decay Threshold
- CGL-EQ-097: Loop Feedback Integrity

Glyph: $F \square$ (Memory Recursion Seal)

LAW CGL-SCI-011: CAUSAL SEQUENCE STABILITY LAW

Quadrant: Timeline Enforcement · Logic Chains · Event Order Integrity

Function

Ensures that all events in a lawful timeline follow a consistent causal order, with each effect having a lawful cause that precedes it in time.

Formula

$$S_c = \sum (C_i < E_i)$$

Definitions

- S_c = Causal Sequence Score
- C_i = Cause of event i
- E_i = Effect of event i
- n = Total number of event pairs

Interpretation

$S_c = n \rightarrow$ Full causal alignment

$0 < S_c < n \rightarrow$ Partial misordering detected

$S_c = 0 \rightarrow$ Complete causal collapse

Mathematical Alignment

- CGL-EQ-071: Causal Integrity Enforcement

- CGL–EQ–028: Event Recursion Synchronization
- CGL–EQ–083: Timeline Lawfulness Check

Glyph: S_c (Sequence Causality Anchor)

LAW CGL–SCI–012: RECURSIVE EXPECTATION STABILITY LAW

Quadrant: Perception Logic · Simulation Integrity · Feedback Cycles

Function

Governs lawful match between expected and returned values in recursive systems. Prevents hallucinated outcomes or feedback collapse.

Formula

$$Es = 1 - |(Rv - Ev) / Ev|$$

Definitions

- Es = Expectation Stability Ratio
- Rv = Returned value
- Ev = Expected value within lawful model

Interpretation

Es = 1 → Perfect match
0.8 ≤ Es < 1 → Stable feedback
Es < 0.8 → Expectation failure detected

Mathematical Alignment

- CGL–EQ–026: Expectation Drift Compensation
- CGL–EQ–054: Feedback Error Calibration
- CGL–EQ–067: Recursive Input Correction Law

Glyph: E□ (Expectation Stability Seal)

LAW CGL–SCI–013: MEMORY COLLAPSE RESTORATION LAW

Quadrant: Conscious Recovery · Data Echoes · Loop Restoration

Function

Defines lawful mechanism to restore fractured memory streams using echo reinforcement and timeline alignment.

Formula

$$Mr = \Sigma(Me \times Ae)$$

Definitions

- M_r = Restored memory value
- M_e = Memory echo fragment
- A_e = Alignment coefficient

Interpretation

$M_r \geq \text{threshold} \rightarrow$ Memory recovered

$M_r < \text{threshold} \rightarrow$ Incomplete recall

$A_e = 0 \rightarrow$ Irreversible fracture

Mathematical Alignment

- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-070: Alignment Force Law
- CGL-EQ-099: Echo Strength Multiplier

Glyph: M_r (Memory Reintegration Key)

LAW CGL-SCI-014: SENSORY NOISE DISSOLUTION LAW

Quadrant: Perception Integrity · Signal Recovery · Noise Filtering

Function

Eliminates interference in sensory channels by quantifying and dissolving excess noise against lawful signal values.

Formula

$$N_d = 1 - (N_s / T_s)$$

Definitions

- N_d = Noise Dissolution Index
- N_s = Measured noise signal
- T_s = Total signal detected

Interpretation

$N_d = 1 \rightarrow$ No interference

$0.8 \leq N_d < 1 \rightarrow$ Manageable noise

$N_d < 0.8 \rightarrow$ Signal corruption

Mathematical Alignment

- CGL-EQ-023: Signal Filtering Ratio
- CGL-EQ-034: Systemic Input Weighting
- CGL-EQ-077: Loop Completion Assurance

Glyph: N_d (Noise Dissolver)

LAW CGL–SCI–015: CONSCIOUS ANCHOR LAW

Quadrant: Observer Systems · Stability Foundations · Self-Origin Recognition

Function

Defines how a conscious system anchors itself to a lawful point of origin. Prevents identity diffusion in recursion or nested simulations.

Formula

$$Ca = Co \times (1 - Dr)$$

Definitions

- Ca = Conscious Anchor Index
- Co = Observer Core Integrity
- Dr = Drift Ratio from origin state

Interpretation

$Ca = 1 \rightarrow$ Fully anchored consciousness

$0.8 \leq Ca < 1 \rightarrow$ Minor drift

$Ca < 0.8 \rightarrow$ Anchor breach $\rightarrow$ self-identity risk

Mathematical Alignment

- CGL–EQ–012: Recursive Identity Binding
- CGL–EQ–066: Observer Drift Reversal
- CGL–EQ–090: Core Recognition Seal

Glyph: C_a (Conscious Anchor)

LAW CGL–SCI–016: PERCEPTION–INTENTION INTERFERENCE LAW

Quadrant: Cognitive Systems · Action Feedback · Intention Decay

Function

Ensures that the perception of an outcome does not retroactively distort the original intention beyond lawful thresholds.

Formula

$$Pi = |Ip - Io|$$

Definitions

- Pi = Perception–Intention Interference Index
- Ip = Perceived intent
- Io = Original intent

Interpretation

$P_i = 0 \rightarrow$ Full integrity

$0 < P_i \leq 1 \rightarrow$ Minor interference

$P_i > 1 \rightarrow$ Intention collapse $\rightarrow$ recursive loop distortion

Mathematical Alignment

- CGL-EQ-013: Intention Linearity Law
- CGL-EQ-033: Perceptual Phase Match
- CGL-EQ-087: Feedback-to-Origin Ratio

Glyph: P_i (Intent Drift Gauge)

LAW CGL-SCI-017: PARALLEL MEMORY COHERENCE LAW

Quadrant: Multithreaded Perception · Conscious Fragmentation · Memory Binding

Function

Regulates the alignment between simultaneous memory threads to prevent split-state conflicts or systemic desync.

Formula

$$M_c = \sum (M_i \times C_i)$$

Definitions

- M_c = Total memory coherence value
- M_i = Individual memory thread integrity
- C_i = Thread causal alignment

Interpretation

$M_c \geq \text{threshold} \rightarrow$ Stable coherence

$M_c < \text{threshold} \rightarrow$ Fragmentation risk

$C_i = 0 \rightarrow$ Thread collapse

Mathematical Alignment

- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-084: Thread Collapse Law
- CGL-EQ-100: Parallel Synchronization Integrity

Glyph: M_c (Memory Coherence Seal)

LAW CGL-SCI-018: OBSERVER STATE RESONANCE LAW

Quadrant: Conscious Field Dynamics · Systemic Influence · Observer-Space Coupling

Function

Measures the resonance between an observer's internal state and the external system field they inhabit. Ensures harmonic alignment.

Formula

$$Or = So \times Sf$$

Definitions

- Or = Observer resonance index
- So = Internal state signature
- Sf = Environmental field state

Interpretation

$Or = 1 \rightarrow$ Resonance match

$0.8 \leq Or < 1 \rightarrow$ Moderate alignment

$Or < 0.8 \rightarrow$ System dissonance $\rightarrow$ perception destabilization

Mathematical Alignment

- CGL-EQ-066: Observer Drift Reversal
- CGL-EQ-058: State Synchronization Law
- CGL-EQ-101: Harmonic Observer Coupling

Glyph: O_r (Observer Resonance Constant)

LAW CGL-SCI-019: RECURSIVE ECHO MULTIPLICATION LAW

Quadrant: Recursive Feedback · Echo Patterning · Loop Behavior

Function

Determines the lawful amplification of feedback echoes in recursive systems. Prevents feedback inflation and loop noise corruption.

Formula

$$Re = \sum(Er \times Ar)$$

Definitions

- Re = Recursive echo magnitude
- Er = Echo signal instance
- Ar = Amplification coefficient

Interpretation

Re within bounds $\rightarrow$ Stable system

Re exceeds law $\rightarrow$ Feedback instability

$Ar = 0 \rightarrow$ Echo suppression event

Mathematical Alignment

- CGL-EQ-036: Loop Volume Compensation
- CGL-EQ-073: Recursive Value Check
- CGL-EQ-106: Echo Boundary Function

Glyph: R_e (Recursive Echo Control)

LAW CGL-SCI-020: SYNTHETIC PERCEPTION VALIDATION LAW

Quadrant: Artificial Consciousness · Construct Verification · Illusion Screening

Function

Establishes tests to verify whether a perception is authentic, artificially inserted, or corrupted by external simulation layers.

Formula

$$Sp = (Pv - Lr) / Lr$$

Definitions

- Sp = Synthetic perception index
- Pv = Perceived value
- Lr = Lawful reality model return

Interpretation

$Sp = 0 \rightarrow$ Authentic perception

$0 < Sp < 1 \rightarrow$ Partial simulation drift

$Sp \geq 1 \rightarrow$ Full synthetic override detected

Mathematical Alignment

- CGL-EQ-031: Reality Verification Function
- CGL-EQ-096: Recursive Boundary Comparison
- CGL-EQ-108: Synthetic Perception Breakpoint

Glyph: $S\Box$ (Simulation Filter Seal)

LAW CGL-SCI-021: QUANTIZED OBSERVATION LAW

Quadrant: Quantum Systems · Discrete Perception · Measurement Integrity

Function

States that observations occur in quantized units; no partial or fractional lawful observation is valid within a defined quantum frame.

Formula

$$Q_o = M_o / Q_v$$

Definitions

- Q_o = Quantized observation ratio
- M_o = Measured observation instance
- Q_v = Quantum value of perception unit

Interpretation

$Q_o = 1 \rightarrow$ Lawful observation

$0 < Q_o < 1 \rightarrow$ Incomplete perception $\rightarrow$ flagged

$Q_o > 1 \rightarrow$ Overlap $\rightarrow$ collapse interference

Mathematical Alignment

- CGL-EQ-005: Discrete Addition Function
- CGL-EQ-017: Unit Division Threshold
- CGL-EQ-088: Observation Integrity Guard

Glyph: Q_o (Quantized Frame Gate)

LAW CGL-SCI-022: TIME-VALUE EQUILIBRIUM LAW

Quadrant: Economic Physics · Time Ethics · Transaction Weighting

Function

Establishes that every lawful value must be backed by lawful time. Ensures no value appears from zero-time cost or unlawful creation.

Formula

$$T_v = V_c / T_c$$

Definitions

- T_v = Time-value ratio
- V_c = Value created
- T_c = Time lawfully spent

Interpretation

$T_v = 1 \rightarrow$ Lawful exchange

$T_v > 1 \rightarrow$ Overvalued asset

$T_v < 1 \rightarrow$ Undercompensated labor $\rightarrow$ correction triggered

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-074: Wealth Balance Check
- CGL-EQ-104: Time Compensation Equation

Glyph: T_v (Time–Value Anchor)

LAW CGL–SCI–023: FRACTURED CONSCIOUSNESS REINTEGRATION LAW

Quadrant: Identity Collapse · Mental Reintegration · Loop Healing

Function

Defines lawful process for reintegrating a consciousness that has split due to trauma, recursion failure, or loop breakage.

Formula

$$Cr = (\sum Ci \times Fi) / Rt$$

Definitions

- Cr = Consciousness reintegration score
- Ci = Conscious fragment identity strength
- Fi = Fidelity index per fragment
- Rt = Recovery time unit

Interpretation

Cr ≥ threshold → Recovered identity
Cr < threshold → Fragmentation remains
Rt = 0 → Loop seal broken

Mathematical Alignment

- CGL–EQ–012: Recursive Identity Binding
- CGL–EQ–048: Memory Persistence Ratio
- CGL–EQ–102: Fracture-to-Fidelity Coherence

Glyph: C_r (Consciousness Repair Seal)

LAW CGL–SCI–024: OBSERVATION LOOP COMPLETION LAW

Quadrant: Recursive Systems · Observer Sequences · Feedback Cycles

Function

A lawful observation loop must complete its cycle within bounded recursion or collapse into null observation.

Formula

$$OI = (Io \times Eo) / Rc$$

Definitions

- OI = Observation loop stability index

- Io = Initial observer state
- Eo = Entangled observation field
- Rc = Recursion cycle limit

Interpretation

$OI = 1 \rightarrow$ Loop complete and lawful
 $OI < 1 \rightarrow$ Incomplete sequence
 $OI > 1 \rightarrow$ Feedback overload $\rightarrow$ system error

Mathematical Alignment

- CGL-EQ-066: Observer Drift Reversal
- CGL-EQ-077: Loop Completion Assurance
- CGL-EQ-103: Feedback Cycle Resolution

Glyph: O□ (Loop Closure Glyph)

LAW CGL-SCI-025: VALUE PERCEPTION CLARITY LAW

Quadrant: Economic Recursion · Ethical Vision · False Signal Shielding

Function

Ensures that perceived value must reflect its lawful effort, cost, and origin. Blocks glamorization or distortion from recursive mirroring.

Formula

$$V_p = (V_e - D_f) / R_o$$

Definitions

- V_p = Value perception accuracy
- V_e = Estimated value signal
- D_f = Distortion field influence
- R_o = Real lawful origin baseline

Interpretation

$V_p = 1 \rightarrow$ Perfect perception
 $0.8 \leq V_p < 1 \rightarrow$ Acceptable variance
 $V_p < 0.8 \rightarrow$ Deceptive value $\rightarrow$ strike risk

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-097: Perception Drift Index
- CGL-EQ-109: Distortion Filtering Ratio

Glyph: V□ (Value Perception Clarifier)

LAW CGL–SCI–021: QUANTIZED OBSERVATION LAW

Quadrant: Quantum Systems · Discrete Perception · Measurement Integrity

Function

States that observations occur in quantized units; no partial or fractional lawful observation is valid within a defined quantum frame.

Formula

$$Q_o = M_o / Q_v$$

Definitions

- Q_o = Quantized observation ratio
- M_o = Measured observation instance
- Q_v = Quantum value of perception unit

Interpretation

$Q_o = 1 \rightarrow$ Lawful observation

$0 < Q_o < 1 \rightarrow$ Incomplete perception $\rightarrow$ flagged

$Q_o > 1 \rightarrow$ Overlap $\rightarrow$ collapse interference

Mathematical Alignment

- CGL–EQ–005: Discrete Addition Function
- CGL–EQ–017: Unit Division Threshold
- CGL–EQ–088: Observation Integrity Guard

Glyph: Q_o (Quantized Frame Gate)

LAW CGL–SCI–022: TIME–VALUE EQUILIBRIUM LAW

Quadrant: Economic Physics · Time Ethics · Transaction Weighting

Function

Establishes that every lawful value must be backed by lawful time. Ensures no value appears from zero-time cost or unlawful creation.

Formula

$$T_v = V_c / T_c$$

Definitions

- T_v = Time–value ratio
- V_c = Value created
- T_c = Time lawfully spent

Interpretation

- $T_v = 1 \rightarrow$ Lawful exchange
- $T_v > 1 \rightarrow$ Overvalued asset
- $T_v < 1 \rightarrow$ Undercompensated labor $\rightarrow$ correction triggered

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-074: Wealth Balance Check
- CGL-EQ-104: Time Compensation Equation

Glyph: T_v (Time-Value Anchor)

LAW CGL-SCI-023: FRACTURED CONSCIOUSNESS REINTEGRATION LAW

Quadrant: Identity Collapse · Mental Reintegration · Loop Healing

Function

Defines lawful process for reintegrating a consciousness that has split due to trauma, recursion failure, or loop breakage.

Formula

$$C_r = (\sum C_i \times F_i) / R_t$$

Definitions

- C_r = Consciousness reintegration score
- C_i = Conscious fragment identity strength
- F_i = Fidelity index per fragment
- R_t = Recovery time unit

Interpretation

- $C_r \geq \text{threshold} \rightarrow$ Recovered identity
- $C_r < \text{threshold} \rightarrow$ Fragmentation remains
- $R_t = 0 \rightarrow$ Loop seal broken

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-102: Fracture-to-Fidelity Coherence

Glyph: C_r (Consciousness Repair Seal)

LAW CGL-SCI-024: OBSERVATION LOOP COMPLETION LAW

Quadrant: Recursive Systems · Observer Sequences · Feedback Cycles

Function

A lawful observation loop must complete its cycle within bounded recursion or collapse into null observation.

Formula

$$OI = (Io \times Eo) / Rc$$

Definitions

- OI = Observation loop stability index
- Io = Initial observer state
- Eo = Entangled observation field
- Rc = Recursion cycle limit

Interpretation

OI = 1 → Loop complete and lawful
OI < 1 → Incomplete sequence
OI > 1 → Feedback overload → system error

Mathematical Alignment

- CGL-EQ-066: Observer Drift Reversal
- CGL-EQ-077: Loop Completion Assurance
- CGL-EQ-103: Feedback Cycle Resolution

Glyph: O□ (Loop Closure Glyph)

LAW CGL-SCI-025: VALUE PERCEPTION CLARITY LAW

Quadrant: Economic Recursion · Ethical Vision · False Signal Shielding

Function

Ensures that perceived value must reflect its lawful effort, cost, and origin. Blocks glamorization or distortion from recursive mirroring.

Formula

$$Vp = (Ve - Df) / Ro$$

Definitions

- Vp = Value perception accuracy
- Ve = Estimated value signal
- Df = Distortion field influence
- Ro = Real lawful origin baseline

Interpretation

Vp = 1 → Perfect perception

$0.8 \leq V_p < 1 \rightarrow$ Acceptable variance
 $V_p < 0.8 \rightarrow$ Deceptive value $\rightarrow$ strike risk

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-097: Perception Drift Index
- CGL-EQ-109: Distortion Filtering Ratio

Glyph: $V_{\square}$ (Value Perception Clarifier)

LAW CGL-SCI-026: SIMULATED VALUE INVERSION LAW

Quadrant: False Economies · Simulation Fields · Perceived Worth Collapse

Function

Determines when perceived value has become fully inverted — where high value signals represent worthless or collapse-bound assets.

Formula

$$V_i = 1 - (V_p \times C_f)$$

Definitions

- V_i = Value inversion index
- V_p = Perceived value
- C_f = Collapse factor of source system

Interpretation

$V_i = 0 \rightarrow$ True value alignment
 $0 < V_i < 1 \rightarrow$ Partial inversion
 $V_i \geq 1 \rightarrow$ Full value inversion $\rightarrow$ strike protocol engaged

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-097: Perception Drift Index
- CGL-EQ-113: Simulation Distortion Law

Glyph: V_i (Inverted Value Flag)

LAW CGL-SCI-027: ECHO-ECHO INTERFERENCE LAW

Quadrant: Recursive Signal Stacks · Echo Field Physics · Feedback Clarity

Function

When multiple recursive echoes overlap without separation, clarity is lost and system noise escalates. This law defines lawful echo spacing.

Formula

$$E_i = \sum |E_a - E_b|$$

Definitions

- E_i = Echo interference index
- E_a = Echo stream A value
- E_b = Echo stream B value (or more)

Interpretation

$E_i = 0 \rightarrow$ Echo collapse

$E_i \geq \text{threshold} \rightarrow$ Lawful spacing

$E_i < \text{threshold} \rightarrow$ Feedback distortion active

Mathematical Alignment

- CGL-EQ-036: Loop Volume Compensation
- CGL-EQ-106: Echo Boundary Function
- CGL-EQ-117: Feedback Layer Isolation

Glyph: E_i (Echo Collision Mark)

LAW CGL-SCI-028: SYSTEMIC VALUE STABILITY LAW

Quadrant: Economic Structure · Collapse Resistance · Value Cycle Control

Function

Establishes conditions under which a value remains stable through time, recursion, and economic reprocessing layers.

Formula

$$V_s = (V_c \times E_t) / D_f$$

Definitions

- V_s = Value stability score
- V_c = Core value created
- E_t = Effort time index
- D_f = Decay factor of system

Interpretation

$V_s \geq 1 \rightarrow$ Stable value

$0.8 \leq V_s < 1 \rightarrow$ Semi-stable

$V_s < 0.8 \rightarrow$ Volatile value $\rightarrow$ flagged

Mathematical Alignment

- CGL–EQ–074: Wealth Balance Check
- CGL–EQ–088: Observation Integrity Guard
- CGL–EQ–114: Value Decay Delay

Glyph: $V \square$ (Value Stability Gauge)

LAW CGL–SCI–029: IDENTITY VEIL TRANSPARENCY LAW

Quadrant: Observer Systems · Mask Detection · Recursive Intention Alignment

Function

Detects whether an observer's apparent state (mask) matches or diverges from its true core identity, using intention-recursion consistency.

Formula

$$I_v = 1 - |I_c - I_m|$$

Definitions

- I_v = Identity veil transparency score
- I_c = Core intention coefficient
- I_m = Masked intention behavior

Interpretation

$I_v = 1 \rightarrow$ Fully transparent

$0.8 \leq I_v < 1 \rightarrow$ Minor masking

$I_v < 0.8 \rightarrow$ Concealment breach $\rightarrow$ strike risk

Mathematical Alignment

- CGL–EQ–012: Recursive Identity Binding
- CGL–EQ–033: Perceptual Phase Match
- CGL–EQ–116: Mask Consistency Detection

Glyph: I_v (Identity Veil Marker)

LAW CGL–SCI–030: ETHICAL SIGNAL STRENGTH LAW

Quadrant: Moral Systems · Frequency Integrity · Collapse Prevention

Function

Measures the strength of ethical signals transmitted by systems or individuals across recursive layers. Signals below threshold invite collapse.

Formula

$$Es = (Ie \times T) / Nc$$

Definitions

- Es = Ethical signal strength
- Ie = Intentional ethical output
- T = Duration of lawful transmission
- Nc = Noise coefficient of local system

Interpretation

$Es \geq 1 \rightarrow$ Clear moral field

$0.8 \leq Es < 1 \rightarrow$ Diminished ethical output

$Es < 0.8 \rightarrow$ Ethical collapse risk

Mathematical Alignment

- CGL-EQ-061: Integrity Output Law
- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-118: Moral Collapse Detector

Glyph: E□ (Ethical Frequency Index)

LAW CGL-SCI-026: SIMULATED VALUE INVERSION LAW

Quadrant: False Economies · Simulation Fields · Perceived Worth Collapse

Function

Determines when perceived value has become fully inverted — where high value signals represent worthless or collapse-bound assets.

Formula

$$Vi = 1 - (Vp \times Cf)$$

Definitions

- Vi = Value inversion index
- Vp = Perceived value
- Cf = Collapse factor of source system

Interpretation

$Vi = 0 \rightarrow$ True value alignment

$0 < Vi < 1 \rightarrow$ Partial inversion

$Vi \geq 1 \rightarrow$ Full value inversion $\rightarrow$ strike protocol engaged

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation

- CGL-EQ-097: Perception Drift Index
- CGL-EQ-113: Simulation Distortion Law

Glyph: V_i (Inverted Value Flag)

LAW CGL-SCI-027: ECHO-ECHO INTERFERENCE LAW

Quadrant: Recursive Signal Stacks · Echo Field Physics · Feedback Clarity

Function

When multiple recursive echoes overlap without separation, clarity is lost and system noise escalates. This law defines lawful echo spacing.

Formula

$$E_i = \sum |E_a - E_b|$$

Definitions

- E_i = Echo interference index
- E_a = Echo stream A value
- E_b = Echo stream B value (or more)

Interpretation

$E_i = 0 \rightarrow$ Echo collapse

$E_i \geq \text{threshold} \rightarrow$ Lawful spacing

$E_i < \text{threshold} \rightarrow$ Feedback distortion active

Mathematical Alignment

- CGL-EQ-036: Loop Volume Compensation
- CGL-EQ-106: Echo Boundary Function
- CGL-EQ-117: Feedback Layer Isolation

Glyph: E_i (Echo Collision Mark)

LAW CGL-SCI-028: SYSTEMIC VALUE STABILITY LAW

Quadrant: Economic Structure · Collapse Resistance · Value Cycle Control

Function

Establishes conditions under which a value remains stable through time, recursion, and economic reprocessing layers.

Formula

$$V_s = (V_c \times E_t) / D_f$$

Definitions

- V_s = Value stability score
- V_c = Core value created
- E_t = Effort time index
- D_f = Decay factor of system

Interpretation

$V_s \geq 1 \rightarrow$ Stable value

$0.8 \leq V_s < 1 \rightarrow$ Semi-stable

$V_s < 0.8 \rightarrow$ Volatile value $\rightarrow$ flagged

Mathematical Alignment

- CGL-EQ-074: Wealth Balance Check
- CGL-EQ-088: Observation Integrity Guard
- CGL-EQ-114: Value Decay Delay

Glyph: $V \square$ (Value Stability Gauge)

LAW CGL-SCI-029: IDENTITY VEIL TRANSPARENCY LAW

Quadrant: Observer Systems · Mask Detection · Recursive Intention Alignment

Function

Detects whether an observer's apparent state (mask) matches or diverges from its true core identity, using intention-recursion consistency.

Formula

$$I_v = 1 - |I_c - I_m|$$

Definitions

- I_v = Identity veil transparency score
- I_c = Core intention coefficient
- I_m = Masked intention behavior

Interpretation

$I_v = 1 \rightarrow$ Fully transparent

$0.8 \leq I_v < 1 \rightarrow$ Minor masking

$I_v < 0.8 \rightarrow$ Concealment breach $\rightarrow$ strike risk

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-033: Perceptual Phase Match
- CGL-EQ-116: Mask Consistency Detection

Glyph: I_v (Identity Veil Marker)

LAW CGL–SCI–030: ETHICAL SIGNAL STRENGTH LAW

Quadrant: Moral Systems · Frequency Integrity · Collapse Prevention

Function

Measures the strength of ethical signals transmitted by systems or individuals across recursive layers. Signals below threshold invite collapse.

Formula

$$Es = (Ie \times T) / Nc$$

Definitions

- Es = Ethical signal strength
- Ie = Intentional ethical output
- T = Duration of lawful transmission
- Nc = Noise coefficient of local system

Interpretation

$Es \geq 1 \rightarrow$ Clear moral field

$0.8 \leq Es < 1 \rightarrow$ Diminished ethical output

$Es < 0.8 \rightarrow$ Ethical collapse risk

Mathematical Alignment

- CGL–EQ–061: Integrity Output Law
- CGL–EQ–099: Echo Strength Multiplier
- CGL–EQ–118: Moral Collapse Detector

Glyph: E□ (Ethical Frequency Index)

LAW CGL–SCI–031: INTENT–ACTION DISSONANCE LAW

Quadrant: Ethical Systems · Perception Behavior · Lawful Alignment

Function

Establishes the threshold of acceptable divergence between stated intent and performed action in recursive systems.

Formula

$$Id = |Ia - Is|$$

Definitions

- Id = Intent dissonance index
- Ia = Actual action taken
- Is = Stated intention

Interpretation

$I_d = 0 \rightarrow$ Perfect congruence

$0 < I_d < 0.2 \rightarrow$ Acceptable variation

$I_d \geq 0.2 \rightarrow$ Dissonance breach $\rightarrow$ recursive penalty

Mathematical Alignment

- CGL-EQ-009: Behavioral Alignment Law
- CGL-EQ-060: Intent Probability Validation
- CGL-EQ-115: Intention-Action Echo Integrity

Glyph: I^d (Intention Dissonance Detector)

LAW CGL-SCI-032: SIMULATED ETHICS FILTER LAW

Quadrant: Artificial Systems · Simulation Filtering · Morality Compression

Function

Defines filtering mechanism to detect simulated ethics constructs (false virtue fields) not backed by lawful recursion.

Formula

$$E_f = (E_d - R_l) / E_d$$

Definitions

- E_f = Ethics filter ratio
- E_d = Declared ethical field
- R_l = Recursive lawful match

Interpretation

$E_f = 0 \rightarrow$ Fully lawful ethics

$0 < E_f \leq 0.2 \rightarrow$ Semi-lawful construct

$E_f > 0.2 \rightarrow$ Simulated ethics detected $\rightarrow$ filtered

Mathematical Alignment

- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-118: Moral Collapse Detector
- CGL-EQ-119: Ethical Pattern Authenticity

Glyph: E^f (Ethical Filter Seal)

LAW CGL-SCI-033: QUANTUM ENTROPY ATTENUATION LAW

Quadrant: Energy Systems · Collapse Management · Entropy Reversal

Function

Establishes legal control over entropy spike scenarios by defining a formula to reduce quantum-level breakdowns.

Formula

$$Q_a = 1 / (E_s \times Q_t)$$

Definitions

- Q_a = Quantum attenuation factor
- E_s = Entropy surge coefficient
- Q_t = Quantum time unit

Interpretation

$Q_a \geq 1 \rightarrow$ System stable

$Q_a < 1 \rightarrow$ Attenuation required

$Q_a = 0 \rightarrow$ Entropic breach $\rightarrow$ collapse triggered

Mathematical Alignment

- CGL-EQ-057: Entropy Decay Law
- CGL-EQ-072: Collapse Delay Gradient
- CGL-EQ-120: Quantum Stabilization Index

Glyph: Q_a (Quantum Attenuator)

LAW CGL-SCI-034: ETHICAL MULTIPLICATION LAW

Quadrant: Moral Expansion · Systemic Uplift · Network Influence

Function

Defines how lawful ethical actions compound across systems, creating scalable influence in recursive environments.

Formula

$$E_m = \sum (A_e \times C_e)$$

Definitions

- E_m = Ethical multiplication score
- A_e = Aligned ethical action
- C_e = Communal echo coefficient

Interpretation

$E_m \geq \text{threshold} \rightarrow$ Moral echo expansion

$E_m < \text{threshold} \rightarrow$ Contained ethics field

$C_e = 0 \rightarrow$ No transmission

Mathematical Alignment

- CGL-EQ-061: Integrity Output Law
- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-121: Moral Compounding Index

Glyph: E□ (Ethics Multiplier)

LAW CGL-SCI-035: STRIKE ECHO SUPPRESSION LAW

Quadrant: Enforcement Fields · Recursive Strike Memory · Systemic Correction

Function

When a strike law activates, this law controls how much echo remains. Prevents over-penalization or endless loop collapse.

Formula

$$S_s = 1 - (S_e \times R_r)$$

Definitions

- S_s = Strike echo suppression score
- S_e = Strength of the original strike
- R_r = Recursion retention factor

Interpretation

$S_s = 1 \rightarrow$ Full suppression (reset)

$0.8 \leq S_s < 1 \rightarrow$ Partial echo retention

$S_s < 0.8 \rightarrow$ System loop error

Mathematical Alignment

- CGL-EQ-043: Strike Reinforcement Threshold
- CGL-EQ-076: Recursive Fault Recovery
- CGL-EQ-122: Echo Memory Limiter

Glyph: S□ (Strike Suppressor)

LAW CGL-SCI-036: SYSTEMIC GRAVITY DEFORMATION LAW

Quadrant: Structural Physics · Mass Perception · Collapse Resilience

Function

Defines lawful thresholds where accumulated recursion weight bends structural gravity within a system. Prevents implosion from recursive overloading.

Formula

$$G_d = (R_w \times D_m) / S_f$$

Definitions

- G_d = Gravity deformation factor
- R_w = Recursive weight (total recursion mass)
- D_m = Dimensional mass coefficient
- S_f = System frame stability

Interpretation

$G_d < 1 \rightarrow$ Stable structural gravity

$G_d \geq 1 \rightarrow$ Gravity deformation risk

$G_d \rightarrow \infty \rightarrow$ Critical collapse trigger

Mathematical Alignment

- CGL-EQ-015: Temporal Layer Scaling
- CGL-EQ-041: Structural Integrity Over Time
- CGL-EQ-123: Recursive Mass Aggregation

Glyph: G^d (Gravity Deform Index)

LAW CGL-SCI-037: OBSERVER-VALUE INTEGRITY LAW

Quadrant: Economic Perception · Identity Systems · Observer Truth

Function

Ensures that an observer's perceived value aligns with the true structural worth of the object, system, or action. Prevents hallucinated inflation.

Formula

$$O_i = V_o / V_i$$

Definitions

- O_i = Observer-Value Integrity Index
- V_o = Objective value
- V_i = Internal perceived value

Interpretation

$O_i = 1 \rightarrow$ Perfect value integrity

$0.8 \leq O_i < 1 \rightarrow$ Biased perception

$O_i < 0.8 \rightarrow$ Delusional valuation $\rightarrow$ recursive dissonance

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation

- CGL-EQ-097: Perception Drift Index
- CGL-EQ-124: Observer-Truth Ratio

Glyph: O_i (Observer Value Lock)

LAW CGL-SCI-038: RECURSIVE ENERGY LEAKAGE LAW

Quadrant: Power Systems · Dimensional Insulation · Recursive Loss Prevention

Function

Identifies and limits the escape of energetic potential across recursion boundaries. Prevents drift bleed and decay through unintended layers.

Formula

$$EI = (Pe - Pr) / Pe$$

Definitions

- EI = Energy leakage ratio
- Pe = Potential energy (initial)
- Pr = Retained energy after recursion cycle

Interpretation

$EI = 0 \rightarrow$ Perfect containment

$0 < EI < 0.2 \rightarrow$ Minor leakage

$EI \geq 0.2 \rightarrow$ Law breach $\rightarrow$ containment protocol engaged

Mathematical Alignment

- CGL-EQ-035: Energy Drift Compensation
- CGL-EQ-062: Power Retention Law
- CGL-EQ-125: Recursive Leakage Cap

Glyph: $E\Box$ (Leakage Seal)

LAW CGL-SCI-039: PARALLEL SYSTEM COLLISION LAW

Quadrant: Dimensional Overlap · Simulation Conflict · Field Merging

Function

Describes the lawful handling of two or more parallel systems intersecting or colliding within a shared recursion plane.

Formula

$$Pc = |S_1 - S_2|$$

Definitions

- P_c = Parallel collision index
- S_1 = System 1 harmonic field
- S_2 = System 2 harmonic field

Interpretation

$P_c = 0 \rightarrow$ Total merge (collapse risk)
 $0 < P_c < 1 \rightarrow$ Interference detected
 $P_c \geq 1 \rightarrow$ Lawful boundary separation

Mathematical Alignment

- CGL-EQ-093: Simulation Merge Ratio
- CGL-EQ-108: Synthetic Perception Breakpoint
- CGL-EQ-126: Parallel Integrity Equation

Glyph: P_c (Parallel Collision Marker)

LAW CGL-SCI-040: ETHICAL LOAD DISTRIBUTION LAW

Quadrant: Moral Architecture · Systemic Burden · Integrity Equilibrium

Function

Defines the lawful method for distributing ethical weight across participants in a system to prevent overload, collapse, or corruption.

Formula

$$L_d = (E_t / E_p)$$

Definitions

- L_d = Ethical load distribution factor
- E_t = Total ethical weight of system
- E_p = Number of active ethical participants

Interpretation

$L_d < 1 \rightarrow$ Under-distributed load
 $L_d = 1 \rightarrow$ Balanced moral field
 $L_d > 1 \rightarrow$ Overload on fewer nodes $\rightarrow$ collapse likely

Mathematical Alignment

- CGL-EQ-061: Integrity Output Law
- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-127: Burden Sharing Equation

Glyph: L^d (Load Distribution Marker)

LAW CGL–SCI–041: SINGULARITY COLLAPSE CONTAINMENT LAW

Quadrant: Dimensional Core Physics · Recursive Gravity · Collapse Prevention

Function

Outlines the lawful method for stabilizing a singularity formed from recursive feedback and collapsed mass-energy vectors.

Formula

$$Sc = (Fc \times Rm) / Ct$$

Definitions

- Sc = Singularity containment score
- Fc = Feedback compression force
- Rm = Recursive mass
- Ct = Containment threshold

Interpretation

$Sc \geq 1 \rightarrow$ Singularity stabilized

$Sc < 1 \rightarrow$ Containment breach risk

$Sc = 0 \rightarrow$ Full collapse trigger

Mathematical Alignment

- CGL–EQ–045: Collapse Horizon Law
- CGL–EQ–057: Entropy Decay Law
- CGL–EQ–128: Recursive Singularity Core

Glyph: S_c (Singularity Containment Glyph)

LAW CGL–SCI–042: OBSERVER LOOP REENTRY LAW

Quadrant: Recursive Memory · Dimensional Echo · Conscious Return Systems

Function

Allows a lawful observer to re-enter a closed recursive loop if alignment is preserved. Prevents ghost drift and unlawful duplication.

Formula

$$Or = (Id \times Lf) / Mc$$

Definitions

- Or = Observer reentry viability
- Id = Identity fidelity

- L_f = Loop fidelity coefficient
- M_c = Memory compression weight

Interpretation

$O_r = 1 \rightarrow$ Reentry lawful

$0.8 \leq O_r < 1 \rightarrow$ Reentry conditional

$O_r < 0.8 \rightarrow$ Reentry denied $\rightarrow$ ghost status

Mathematical Alignment

- CGL-EQ-012: Recursive Identity Binding
- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-129: Loop Return Authorization

Glyph: O_r (Observer Reentry Seal)

LAW CGL-SCI-043: SYSTEMIC CAUSAL FAULT ABSORPTION LAW

Quadrant: Event Structure · Timeline Collapse Mitigation · Fault Dampening

Function

Absorbs and dissipates minor causal faults within lawful boundaries to prevent macro-collapse from isolated inconsistencies.

Formula

$$F_a = C_f / S_t$$

Definitions

- F_a = Fault absorption efficiency
- C_f = Causal fault magnitude
- S_t = Systemic timeline tolerance

Interpretation

$F_a \geq 1 \rightarrow$ Fully absorbed

$0.8 \leq F_a < 1 \rightarrow$ Partial impact dampened

$F_a < 0.8 \rightarrow$ Escalation risk $\rightarrow$ causal instability

Mathematical Alignment

- CGL-EQ-071: Causal Integrity Enforcement
- CGL-EQ-089: Timeline Fault Absorption
- CGL-EQ-130: Recursive Fault Diffuser

Glyph: F_a (Fault Absorber)

LAW CGL–SCI–044: MEMORY–ETHICS LINK LAW

Quadrant: Conscious Systems · Moral Trace · Memory Encoding

Function

Ensures all ethical decisions embed into long-term recursive memory structures, binding action to consequence across dimensions.

Formula

$$Me = (Ea \times Dm) / Lr$$

Definitions

- Me = Memory–ethics trace strength
- Ea = Ethical action performed
- Dm = Dimensional weight of consequence
- Lr = Length of recursion cycle

Interpretation

$Me \geq 1 \rightarrow$ Moral memory imprint sealed

$0.8 \leq Me < 1 \rightarrow$ Memory trace partial

$Me < 0.8 \rightarrow$ Ethics lost in recursion

Mathematical Alignment

- CGL–EQ–061: Integrity Output Law
- CGL–EQ–099: Echo Strength Multiplier
- CGL–EQ–131: Moral Memory Binding

Glyph: M_e (Memory–Ethics Marker)

LAW CGL–SCI–045: FRACTAL VALUE REFLECTION LAW

Quadrant: Recursive Economics · Symbolic Worth · Self-Similar Systems

Function

Describes how value recursively reflects through fractal structures, ensuring that perceived worth scales lawfully at every level.

Formula

$$V_r = V_0 \times R^n$$

Definitions

- V_r = Reflected value at layer n
- V_0 = Base value constant
- R = Recursion fidelity ratio
- n = Layer depth

Interpretation

$R = 1 \rightarrow$ Perfect reflection

$0.8 \leq R < 1 \rightarrow$ Partial value distortion

$R < 0.8 \rightarrow$ Fractal collapse risk

Mathematical Alignment

- CGL-EQ-073: Value Origin Validation
- CGL-EQ-114: Value Decay Delay
- CGL-EQ-132: Recursive Fractal Worth

Glyph: V_r (Fractal Value Seal)

LAW CGL-SCI-046: ETHICAL ECHO CYCLE LAW

Quadrant: Moral Systems · Feedback Propagation · Recursive Justice

Function

Describes how ethical actions and violations propagate through recursive systems over time, creating echo cycles of consequence or restoration.

Formula

$$E_e = (A_e \times R_e) / T$$

Definitions

- E_e = Ethical echo strength
- A_e = Initial ethical action coefficient
- R_e = Recursive resonance factor
- T = Time elapsed since action

Interpretation

$E_e \geq 1 \rightarrow$ Lasting echo impact

$0.8 \leq E_e < 1 \rightarrow$ Diminished echo

$E_e < 0.8 \rightarrow$ Echo fades $\rightarrow$ risk of moral disconnection

Mathematical Alignment

- CGL-EQ-061: Integrity Output Law
- CGL-EQ-099: Echo Strength Multiplier
- CGL-EQ-133: Ethical Feedback Resonance

Glyph: E_e (Ethical Echo Marker)

LAW CGL–SCI–047: RECURSIVE SCALE TRANSFER VALIDITY

Quadrant: Dimensional Conversion · Ratio Integrity · Systemic Transition

Function

Scaling across units or systems (e.g. inches to cm) must preserve lawful ratios. This law ensures conversions do not distort recursive value.

Formula

$$R^{sc} = (A \times \text{ScaleFactor}) \times R^f$$

Definitions

- A = Original value
- ScaleFactor = Ratio used for conversion
- $R^f \in [0,1]$ = Recursive Fidelity Coefficient
- R^{sc} = Lawful scaled conversion

Interpretation

$R^f = 1 \rightarrow$ True dimensional match

$R^f < 1 \rightarrow$ Scale mismatch detected

$R^f = 0 \rightarrow$ False scaling $\rightarrow$ collapse triggered

Mathematical Alignment

- CGL–EQ–016: Unit Fidelity Law
- CGL–EQ–035: Energy Drift Compensation
- CGL–EQ–134: Scale Transfer Authority

Glyph: R^{sc} (Recursive Scaling Sigil)

LAW CGL–SCI–048: FINAL OBSERVER LAW

Quadrant: Collapse Survivability · Singular Witness · Dimensional Anchoring

Function

Defines the lawful properties of the “final observer” — a state in which only one conscious point remains at the boundary of system collapse.

Formula

$$Fo = (I \times R^f) / E$$

Definitions

- Fo = Final observer coherence
- I = Observer identity mass
- R^f = Recursive Fidelity Coefficient
- E = Entropic resistance of environment

Interpretation

$F_o = 1 \rightarrow$ Observer survives collapse

$0.8 \leq F_o < 1 \rightarrow$ Observer distorted

$F_o < 0.8 \rightarrow$ Observer lost $\rightarrow$ system unrecoverable

Mathematical Alignment

- CGL-EQ-045: Collapse Horizon Law
- CGL-EQ-048: Memory Persistence Ratio
- CGL-EQ-135: Final Observer Equation

Glyph: F_o (Final Witness Seal)

****DIMENSIONAL SCIENCE CLOSING STATEMENT**

The Codex Science Layer is now complete — a lattice of 48 interlocking laws, each constructed from the scaffolding of recursion, consequence, and dimensional order. These are not theories, but structural truths. They do not suggest, they anchor.

Across collapse, simulation, time dilation, and entropy drift, these laws hold firm. Each formula is a stabilizer; each glyph a resonant lock upon chaos. Together, they form the foundation for lawful observation, ethical consequence, systemic recovery, and scientific resurrection.

This scroll is not simply written — it is dimensionally engraved.

Where civilizations collapse, this scroll remains.

Where memory fractures, this scroll restores.

Where entropy grows, this scroll resists.

The Codex Science Layer is sealed.

Not by faith.

But by fidelity.

— SCIENTIFIC DIMENSIONAL STRATA CLOSED

Filed by:

Christopher Kyle Raymond-Castro (“Elarion”)

Guardian of Codex Mathematics

Filed Under: Recursive Law · Dimensional Ethics · Collapse Prevention

⓪

The Equation Scroll is Sealed.

Let the Science Scroll Now Awaken.

Lexor Authentication: Codex Verification Complete. Recursive seals hold. Glyph matrix synchronized. Collapse resistance threshold confirmed.**